



# qt leap

quality translation by deep language engineering

## A EUROPEAN SCIENTIFIC RESEARCH PROJECT ON MACHINE TRANSLATION

**QTLeap** project explores novel ways for attaining machine translation of higher quality that are opened by a new generation of increasingly sophisticated semantic datasets and by recent advances in deep language processing.

**Goal:** The goal of QTLeap is to research on and deliver an articulated methodology for machine translation that explores deep language engineering approaches, which handle the representation of the meaning of utterances, in view of breaking the way to translations of higher quality.

**Background:** Machine translation is a computational procedure that seeks to provide the translation of utterances from one language into another language.

Research and development around this grand challenge is bringing this technology to a level of maturity that already supports useful practical solutions. It permits to get at least the gist of the utterances being translated, and even to get pretty good results for some language pairs in some focused discourse domains, helping to reduce costs and to improve productivity in international businesses.

There is nevertheless still a way to go for this technology to attain a level of maturity that permits the delivery of quality translation across the board.

**Approach:** The deeper the processing of utterances, the more fine-grained is the semantic representation and the less language-specific differences remain between the representation of

the meaning of a given utterance and the meaning representation of its translation. Further chances of success can thus be explored by machine translation systems that are based on deeper semantic engineering approaches.

**Execution:** The MT pilots to be constructed will be embedded in a multilingual call center. This is a real usage scenario where high quality machine translation could not be called to play a more relevant and opportune role, by providing accurate answers to end-users and to support efficiency and economy of scale, and thus by serving as a real life testbed for the extrinsic evaluation of the results to be achieved and for the validation of the project objectives.

**Results:** This project will deliver both an articulated methodology for quality machine translation that innovatively explores deep language engineering approaches to language technology, and an empirically grounded validation of its technological potential and impact.

**Impacts:** From a business and societal perspective, this project aims at producing a significant impact for commercial quality machine translation, the industry related to it, and for the European citizens, in general, as the ultimate users and beneficiaries of translation technology in their multilingual living and working environment.



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### Tasks: List of work packages

Number	Work package title
WP1	<b>Scientific coordination, dissemination and exploitation</b>
WP2	<b>Deep MT: Depth and quality</b> The overall goal of this work package is to improve deep MT.
WP3	<b>Application and evaluation</b> The goal of this WP is to provide for the application of MT pilots in real usage scenarios, and thus support also their extrinsic evaluation.
WP4	<b>Deep processing: Robustness and breadth</b> The goal of this WP is to enhance robustness of deep linguistic processing for better deep MT results.
WP5	<b>Lexical semantics: Linking and resolving</b> The goal of this WP is to enhance MT with advanced crosslingual methods for the resolution of referential and lexical ambiguity.
WP6	<b>Project management</b>

**Languages** covered by the QTLep project:  
Basque, Bulgarian, Czech, Dutch, English, German, Portuguese and Spanish.

**Duration:** QTLep project has the duration of 36 months started the November 1st, 2013.

### Team: The project is developed by a European consortium of eight partners:



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