Is machine translation ripe for EU translators?

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Who talked about hype?

- Maybe the wrong question
- Are **translation consumers** ripe for MT?
- We promised the moon …
- Now they’ve seen Google and they believe
- We have to offer them a nice planet to live in
And the translators?

- Change in attitude
- What was despised yesteryear is asked for now
- A noisy minority … will lead the others
- They are already putting high pressure on us!
The approach to MT

- The importance of directions
- MT, what for?
- When a means becomes an aim
- In any case, it’s circular

- Now, has everybody realised that the profession has to change?
How good is good?

- We are on a high end
- Niche market based on quality
- Full human quality is sought for
- And nevertheless…

- Do we serve the multilingual needs of the EU?
Directorate-General for Translation

- Staff:
  - 1750 linguists and 600 support
- Production (M pages):
  - 0.9 (1992)
  - 1.2 (2004)
  - 1.8 (2008)

But to make europa.eu fully multilingual

- translate almost 6.8 million documents
- 8,500 translators working full-time for one year
- not feasible if not using new technologies like MT
Languages from and into which we translate

23. Bulgarian
22. Irish *
21. Romanian
20. Czech
19. Estonian
18. Hungarian
17. Latvian
16. Lithuanian
15. Maltese
14. Polish
13. Slovak
12. Slovenian
11. Finnish
10. Swedish
9. Portuguese
8. Spanish
7. Greek
6. Danish
5. English
4. Dutch
3. French
2. German
1. Italian

What do we translate?

- Legal acts and preparatory documents
- Commission decisions and communications
- Publications
- Correspondence
- Speeches, minutes
- Reports, working documents
- Web pages
What do we translate?

Document types at the European Commission

- Existing legal obligations (74%)
- Political priorities/new legal obligations (8%)
- Communication priorities (8%)
- Non-core documents (10%)
Why?

- **Council Regulation No 1/58**
  - Regulations and other documents of general application shall be drafted in the official languages.

- **Treaty establishing the European Community and the Lisbon Treaty**
  - Citizens have a right to address the official EU bodies in any of the EU’s official languages and to receive a reply in that language.
EU is more than EC
Here’s the whole picture!
We use tools

- Translation memories
- Terminology tools
- Documentary databases
- Virtual libraries
- Electronic dictionaries
- and ECMT

- But significant grey zones remain
The present: ECMT service

- rule-based machine translation
- developed since 1975
- 28 language pairs available (ten languages)
- since 2006 no significant work on any pair
- use (requests x 10^6): 1.5 (2006); over 2.5 (2009)
- used by
  - EU institutions for gisting
  - Online services and information systems for raw translation
  - DGT as a CAT tool
The future: MT@EC service

Policy
Commission Communication on "Multilingualism" 2008: “human and automatic translation is an important part of multilingualism policy”

Facts
- ECMT is costly to develop
- Data-driven systems are cheap and quick to develop… if you have the data

Language Technology Watch
- Market and research observation
- Tests of commercial and non commercial tools and MT systems
MT@EC Needs – resources - action

MT@EC strategy
- Adopted in June 2009 by DGT
- Task Force created November 2009

Task Force results April 2010
- MT@EC is necessary for the Commission
  (trust, confidentiality, continuity)
- Data-driven systems: a major technological breakthrough
- User requirements have been collected
- An outline of an “architecture” has been elaborated
  (flexible, sustainable, ensuring technological independence)
- Recommendations on organisational and financial arrangements
Machine Translation Service
Outline of the proposed MT@EC architecture

DISPATCHER
managing MT requests

MT engines
by language, subject…

MT data
language resources
specific for each MT engine

Language resources
built around Euramis

Users and Services

Customised interfaces

ENGINES HUB

DATA HUB

DATA MODELLING

USER FEEDBACK
Machine Translation Service
A number of projects within an “MT@EC programme”

“MT Engines - baseline" project (EC)
   IT infrastructure for the core of the “MT Engines Hub”

“MT data management hub" projects (DGT)
   Language resources (LR) underlying the MT system

“Customised MT solutions" projects (clients)
   “Client” requesting development of (examples) :
   - a domain specific MT engine
   - a specific interface to external services
Exodus

- Internal DGT experimentation with Moses toolkit
- Using Euramis (internal) TM data
- With temporary redeployment of existing ICT and human resources
- With the active contribution of:
  - the DGT’s Portuguese department
  - the EuromatrixPlus project
  - the Translation DG of the European Parliament
What was done

- Corpus preparation and cleaning
- Development of an EN->PT engine
- Human evaluation by the PT LD (more than 30 translators involved)

What has not been done

*(due to time and resource limitations)*

- No iterative process for improving corpus quality.
- No incremental updates of translation and language models
- No engineering interventions
First conclusions

- Quality evaluation of MT output for EN->PT results very encouraging
- Dedicated analysis on IT engineering work required for production ready system for all EU languages
- Quality of data cleaning and preparation: the main "comparative" advantage of DGT

Note:
More Exodus pairs are currently being evaluated by the European Parliament, who also submitted an Exodus pair (EN-to-FR) to the WMT 2010 competition
MT Action plan June 2010

- Action line 1: MT data
  started with: internal translation memories
  challenge: prepared for optimising all kinds of data for MT
MT Action plan  June 2010

- Action line 2: MT engines
  - started with: open source tools
  - challenge: compare alternative systems (both commercial and non-commercial) in terms of quality of output, price (total cost of ownership), feasibility, language coverage
MT Action plan June 2010

- Action line 3: MT service started with: prototype of architecture according to TF challenge: flexible and sustainable implementation and governance of MT service

In parallel EC is preparing to continuously update the DGT Multilingual Translation Memory of the Acquis Communautaire (DGT-TM)
And the question is …

- Are the EU translators ripe for MT?
Thank you