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As the Patent Office for Europe, we support innovation, competitiveness and economic growth across Europe through a commitment to high quality and efficient services delivered under the European Patent Convention.
Structure of the European Patent Organisation

European Patent Organisation

European Patent Office

The executive body
- responsible for examining European patent applications

Administrative Council

The legislative body
- made up of delegates from the member states
- supervises the activities of the Office
- has a specific legislative function
35 member states

Austria • Belgium • Bulgaria • Croatia • Cyprus • Czech Republic • Denmark • Estonia • Finland • France • Germany • Greece • Hungary • Iceland • Ireland • Italy • Latvia • Liechtenstein • Lithuania • Luxembourg • Former Yugoslav Republic of Macedonia • Malta • Monaco • Netherlands • Norway • Poland • Portugal • Romania • Slovakia • Slovenia • Spain • Sweden • Switzerland • Turkey • United Kingdom

European patent applications and patents can also be extended at the applicant's request to the following states:

Albania • Bosnia-Herzegovina • Serbia

Status: January 2009
Autonomy

- Second largest intergovernmental institution in Europe
- Not an EU institution
- Self-financing, i.e. revenue from fees covers operating and capital expenditure
## Number of staff

<table>
<thead>
<tr>
<th>Location</th>
<th>Number of Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Munich</td>
<td>3,514</td>
</tr>
<tr>
<td>The Hague</td>
<td>2,579</td>
</tr>
<tr>
<td>Berlin</td>
<td>283</td>
</tr>
<tr>
<td>Vienna</td>
<td>119</td>
</tr>
<tr>
<td>Brussels</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>6,499</strong></td>
</tr>
</tbody>
</table>

Around 60% are patent examiners.

Status: December 2007
The EPO has offices at five different locations.

Its headquarters are in Munich.

For more information visit www.epo.org
Background

• 2004: Approval of the European Machine Translation Programme (EMTP) by the Administrative Council of the EPO

• Technical approach used: rule-based engine, dictionaries built on IPC-based patent terminology

• 2008: first language pairs (EN-ES and EN-DE) entered into production

• No suitable rule-based translation engines for certain EPO languages

• European Council document from 7 April 2009 addressing the translation issue related to the Community Patent
Current EMTP Approach

- EPO buys a service for offering machine translations. We are not in the business of building translation engines

- Added value: Technical dictionaries based on the IPC classification scheme which the EPO builds together with external suppliers

- Current implementations are with English as a pivot language

- Current engines are rule based
What We Have Today

ENGLISH

Nat. language (DE)

Nat. language (ES)

Nat. language (IT, SE, FR, PT ...)

Nat. language xyz
EMTP Status

• Delivery of translations on two levels:
  – Level 1: Generic dictionaries
  – Level 2: Dictionaries with technical terms based on IPC classification

• Automatic, real-time translations can be obtained via:
  – esp@cenet
  – Machine Translation Portal (http://epo.worldlingo.com/)
  – SEA Viewer (for EPO examiners)
Status per Language – IPC Dictionaries Complete

• German
  – Co-operation between the EPO and the German Patent and Trademark Office, the Austrian Patent Office and the Swiss Federal Institute of Intellectual Property
  – Nearly 60,000 translation requests in December 2008
  – 10-fold increase in translation requests within one year (between January 2008 and January 2009)

• Spanish
  – Co-operation between the EPO and the Spanish Patent and Trademark Office
  – 7-fold increase in translation requests within one year (between January 2008 and January 2009)
Status per Language – IPC Dictionaries in Progress

• Italian
  – Co-operation between the EPO and the Italian Patent Office
  – About 30,000 translation requests in December 2008
  – In production with 30,000 entries per language direction (it↔en)

• Swedish
  – Co-operation between the EPO and the Swedish Patent and Registration Office
  – IPC dictionaries (level 2) available for internal testing via the MT Portal.
  – Technical dictionaries complete
  – Project go-live planned for late June 2009
Status per Language – Ongoing Implementations

• French
  – Co-operation between EPO and the Belgian, French, Monaco and Swiss IP Offices
  – Translations currently available for internal testing via the MT Portal and the SEA Viewer
  – Operation planned for 3Q 09

• Portuguese
  – The English→Portuguese language direction planned for 3Q 09

• Dutch, Finnish and Greek in preparation
• Romanian and Turkish: project implementation is conditional on the identification of suitable translation engines
Aims of the future enhanced MT programme at the EPO

- Explore available MT technologies that will enable us to introduce a machine translation system in the next 5 to 10 years, which
  - is tailor-made for translating patent specifications
  - offers scalable machine translation services from the three EPO official languages into all EPO languages
Justification

• To enable access to patent information to enterprises, researchers and technically qualified users in Europe

• To support the London agreement

• To serve as a contribution to resolving the translation/language issue related to the Community Patent

• To make national documentation available to EPO examiners
What We Will Need in the Future

ENGLISH
FRENCH
GERMAN

Nat. language 1
Nat. language 2
Nat. language xyz
Nat. language xyz

Aims of the future MT programme

What we will need in the future
Which Technical Solution? What Implications?

- Rules-based vs. statistical engine? or a hybrid approach?

- Which criteria shall be applied for comparable testing of different engines?

- How can different engines be combined in one translation system?

- What would this mean for the architecture of the overall system?

- What would the selection of an engine imply for the implementation process of the MT services?
Challenges

- Finding a suitable translation engine for languages such as Finnish, Romanian, Estonian, Turkish, etc.
- Improving the quality of translations
- Managing patent specificity
- Operating, maintaining and improving of the MT service
What would researchers need from the EPO in order to make progress in this area?
Thank you for your attention