



D 2.6.7 Report on Research Exchange and Collaboration

York Sure (UKARL), Jörg Diederich (L3S)

Abstract.

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This deliverable presents T-REX, the program in Knowledge Web (KWeb) to support “Topic-oriented Research EXchange”, and gives an overview of the exchanges performed in 2005. The short-term goal of T-REX is to encourage, support and manage the exchange of researchers across KWeb members. The long-term goal of T-REX is to strengthen the European research area by establishing strong and lasting links across research organizations, e.g. visible by shared publications of KWeb members. In this deliverable we report on the exchanges that took place in 2004 – 2006.

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University of Innsbruck (UIBK) – Coordinator

Institute of Computer Science,
 Technikerstrasse 13
 A-6020 Innsbruck
 Austria
 Fax: +43(0)5125079872
 Phone: +43(0)5125076485/88
 Contact person: Dieter Fensel
 E-mail address: dieter.fensel@uibk.ac.at

École Polytechnique Fédérale de Lausanne (EPFL)

Computer Science Department, Swiss Federal
 Institute of Technology
 IN (Ecublens), CH-1015 Lausanne,
 Switzerland
 Fax: +41 21 6935225
 Phone: +41 21 6932738
 Contact person: Boi Faltings
 E-mail address: boi.faltings@epfl.ch

France Telecom (FT)

4 Rue du Clos Courtel
 35512 Cesson Sévigné
 France, PO Box 91226
 Fax: +33 2 99124098
 Phone: +33 2 99124223
 Contact person : Alain Leger
 E-mail address: alain.leger@rd.francetelecom.com

Freie Universität Berlin (FU Berlin)

Takustrasse, 9
 14195 Berlin
 Germany
 Fax: +49 30 83875220
 Phone: +49 30 83875223
 Contact person: Robert Tolksdorf
 E-mail address: tolk@inf.fu-berlin.de

Free University of Bozen-Bolzano (FUB)

Piazza Domenicani 3
 39100 Bolzano
 Italy
 Fax: +39 0471 315649
 Phone: +39 0471 315642
 Contact person: Enrico Franconi
 E-mail address: franconi@inf.unibz.it

Institut National de Recherche en Informatique et en Automatique (INRIA)

ZIRST - 655 avenue de l'Europe - Montbonnot
 Saint Martin
 38334 Saint-Ismier
 France
 Fax: +33 4 7661 5207
 Phone: +33 4 7661 5366
 Contact person: Jérôme Euzenat
 E-mail address: Jerome.Euzenat@inrialpes.fr

Centre for Research and Technology Hellas / Informatics and Telematics Institute (ITI-CERTH)

1st km Thermi – Panorama road
 57001 Thermi-Thessaloniki
 Greece, Po Box 361
 Fax: +30-2310-464164
 Phone: +30-2310-464160
 Contact person: Michael G. Strintzis
 E-mail address: strintzi@iti.gr

Learning Lab Lower Saxony (L3S)

Expo Plaza 1
 30539 Hannover
 Germany
 Fax: +49-511-7629779
 Phone: +49-511-76219711
 Contact person: Wolfgang Nejdl
 E-mail address: nejdl@learninglab.de

National University of Ireland Galway (NUIG)

National University of Ireland, Science and
 Technology Building, University Road
 Galway
 Ireland
 Fax: +353 91 526388
 Phone: +353 87 6826940
 Contact person: Christoph Bussler
 E-mail address: chris.bussler@deri.ie

The Open University (OU)

Knowledge Media Institute, The Open University
 Milton Keynes, MK7 6AA
 United Kingdom.
 Fax: +44 1908 653169
 Phone: +44 1908 653506
 Contact person: Enrico Motta
 E-mail address: e.motta@open.ac.uk

Universidad Politécnica de Madrid (UPM)

Campus de Montegancedo sn
28660 Boadilla del Monte
Spain
Fax: +34-913524819
Phone: +34-913367439
Contact person: Asunción Gómez Pérez
E-mail address: asun@fi.upm.es

University of Liverpool (UniLiv)

Chadwick Building, Peach Street
L697ZF Liverpool
United Kingdom
Fax: +44(151)7943715
Phone: +44(151)7943667
Contact person: Michael Wooldridge
E-mail address: M.J.Wooldridge@csc.liv.ac.uk

University of Sheffield (USFD)

Regent Court, 211 Portobello street
S14DP Sheffield
United Kingdom
Fax: +44 114 2221810
Phone: +44 114 2221891
Contact person: Hamish Cunningham
E-mail address: hamish@dcs.shef.ac.uk

Vrije Universiteit Amsterdam (VUA)

De Boelelaan 1081a
1081HV, Amsterdam
The Netherlands
Fax: +31842214294
Phone: +31204447731
Contact person: Frank van Harmelen
E-mail address: Frank.van.Harmelen@cs.vu.nl

University of Karlsruhe (UKARL)

Institut für Angewandte Informatik und Formale
Beschreibungsverfahren – AIFB, Universität
Karlsruhe
D-76128 Karlsruhe
Germany
Fax: +49 721 6086580
Phone: +49 721 6083923
Contact person: Rudi Studer
E-mail address: studer@aifb.uni-karlsruhe.de

University of Manchester (UoM)

Room 2.32, Kilburn Building, Department of
Computer Science, University of Manchester,
Oxford Road
Manchester, M13 9PL
United Kingdom
Fax: +44 161 2756204
Phone: +44 161 2756248
Contact person: Carole Goble
E-mail address: carole@cs.man.ac.uk

University of Trento (UniTn)

Via Sommarive 14
38050 Trento
Italy
Fax: +39 0461 882093
Phone: +39 0461 881533
Contact person: Fausto Giunchiglia
E-mail address: fausto@dit.unitn.it

Vrije Universiteit Brussel (VUB)

Pleinlaan 2, Building G10
1050 Brussels
Belgium
Fax: +32 2 6293308
Phone: +32 2 6293308
Contact person: Robert Meersman
E-mail address: robert.meersman@vub.ac.be

Executive Summary

This deliverable is part of the “WP 2.6 Weaving the European Semantic Web Research Network”. It describes the program for exchange of researchers within Knowledge Web called “T-REX: <T>opic-oriented <R>esearcher <EX>change in Knowledge Web”. The exchange program has been established during the first year of Knowledge Web and has been successfully continued in 2005 and 2006.

The short-term goal of T-REX is to encourage, support and manage primarily the exchange of researchers across all Knowledge Web (KWeb) members, but also to encourage exchanges with external parties such as partners of other EU thematic networks of excellence and external industrial partners.

The long-term goal of T-REX is to strengthen the European research area by establishing strong and lasting links across research organizations, e.g. visible by shared publications of KWeb members.

Key numbers for T-REX:

The amount of exchanges per year decreased in 2006, adding up to a total of **42 exchanges** in 2004 – 2006. The average duration per exchange increased from **~39 days** per exchange in 2004 to **~43 days** in 2006.

In the years 2004 to 2006, **24 partners** (19 KWeb partners and 5 external) participated in **1726 days of exchange** with an average duration of **~41 days per exchange**.

Key numbers for analysis of shared publications:

The “**share ratio**” of shared publications vs. total publications of KWeb members increased from **4,75%** for the years 1984-2003 to **8,63%** for the years 2004-2006.

Plans for 2007: We will continue the process of measuring the outcome of the T-REX program e.g. by counting shared publications. It is foreseen to continue putting a special emphasize on encouraging female network members to participate in T-REX as well as on encouraging partners which were not so active so far. In addition we will strengthen the collaboration with the industry area of KWeb to potentially increase the number of exchanges with industrial partners.

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Overview

In Sections 1-2 we will briefly summarize the goal and major recommendations of the T-REX program. A detailed description of the T-REX Goals, Timeline, Actors, Duration, Topic, Final Report, Process, Example Calculation, Recommendations can be found in the KWeb Deliverable 2.6.2 (M12) which is available online in the Knowledge Web Portal. In Section 3 we give an overview about the exchanges which took place in 2004 – 2006. Section 4 highlights first measurements of shared publications based on an exploration of the well-known DBLP literature database. In Section 5 we conclude and outline our plans for 2007.

1 Goals

The **short-term goal** of T-REX is to encourage, support and manage primarily the exchange of researchers across all Knowledge Web (KWeb) members, but also to encourage exchanges with external parties such as partners of other EU thematic networks of excellence and external industrial partners.

The **long-term goal** of T-REX is to strengthen the European research area by establishing strong and lasting links across research organizations, e.g. visible by shared publications of KWeb members.

2 Recommendations in a Nutshell

- Each KWeb member needs to spend at least **6.5 % of his total eligible costs for JPA** in KWeb for research exchange over the whole duration of KWeb.
- The sending organizations are responsible to cover these costs according to their own financial guidelines, potentially and most likely from their own KWeb budget.
- Members who are not able to send away people (e.g. due to organizational issues) should spend the same amount of money for attracting participants from other members. In this case not the sender, but rather the host is responsible to cover the costs.
- As default **2.5 KEUR per person and month of stay** are eligible costs for the sending organization which are granted without further permission. Higher costs need the approval of the KWeb EPMB *before* the beginning of the exchange.
- A **final report** needs to be provided by the participant no later than one month after the end of the exchange about the scientific achievements made during the exchange. All reports are collected within the KWeb portal.
- Exchanges with partners from other EU thematic networks of excellence and external industrial partners are encouraged. They might require different treatment

and are expected to be handled on a case by case base. As key opportunity for exchanges with industrial partners sabbaticals of senior research staff have been identified which can be supported by Knowledge Web by funding travel and accommodation expenses.

3 Exchanges in 2004 – 2006

We start by giving an overview on all exchanges of the T-REX program followed by a number of statistics¹ and a listing of exchanges per partner.

3.1 General Overview of Exchanges

We here present the status of announced T-REX exchanges on 08.01.2007, the most recent version can be found in the KWeb portal at <http://knowledgeweb.semanticweb.org/> (click on 'Exchanges' in the lower part of the left navigation bar).

Participant	Sender	Host	Start	End
York Sure	University of Karlsruhe	Stanford University	24.06.2006	13.09.2006
Mikalai Yatskevich	University of Trento	IBM Watson Research Center	19.06.2006	20.08.2006
Andrei Tamilin	University of Trento	University of Mannheim	16.06.2006	24.07.2006
Raúl Palma	Universidad Politécnica de Madrid	University of Karlsruhe	25.04.2006	24.05.2006
Wolf Siberski	L3S Research Center	University of Aberdeen	27.03.2006	02.04.2006
Jeff Pan	University of Aberdeen	University of Manchester	16.11.2005	16.11.2005
Max Völkel	University of Karlsruhe	DERI Galway	03.11.2005	17.12.2005
Stefano David	Universidad Politécnica de Madrid	Universidad Politécnica de Madrid	01.10.2005	31.12.2005
Peter Dolog	L3S Research Center	Vrije Universiteit Amsterdam	16.09.2005	15.10.2005
Stefano Spaccapietra	École Polytechnique Fédérale de Lausanne	Free University of Bozen-Bolzano	01.09.2005	30.09.2005

¹ **Please note:** To make calculations slightly easier, exchanges are counted for the year in which the exchange started. I.e., if an exchange starts in 2004 and ends in 2005 the time is counted for 'exchanges in 2004'. It has to be noted that there are only few exchanges where this simplification applies.

Mustafa Jarrar	Vrije Universiteit Brussel	Free University of Bozen-Bolzano	24.08.2005	30.09.2005
Elena Paslaru Bontas	Freie Universität Berlin	University of Karlsruhe	01.08.2005	19.08.2005
Jörg Diederich	L3S Research Center	The Open University	25.07.2005	19.08.2005
Jeff Pan	University of Manchester	Vrije Universiteit Amsterdam	04.07.2005	16.07.2005
Mikalai Yatskevich	University of Trento	Vrije Universiteit Amsterdam	01.07.2005	29.07.2005
Jos de Bruijn	University of Innsbruck	Free University of Bozen-Bolzano	28.06.2005	08.07.2005
Antoine Zimmermann	Institut National de Recherche en Informatique et en Automatique	University of Karlsruhe	19.06.2005	26.06.2005
Jeff Pan	University of Manchester	Centre for Research and Technology Hellas	22.05.2005	30.05.2005
Lyndon JB Nixon	Freie Universität Berlin	Centre for Research and Technology Hellas	09.05.2005	27.05.2005
Marc Ehrig	University of Karlsruhe	Institut National de Recherche en Informatique et en Automatique	25.04.2005	27.05.2005
Jeff Pan	University of Manchester	Free University of Bozen-Bolzano	17.04.2005	30.04.2005
Knud Möller	National University of Ireland Galway	University of Sheffield	04.04.2005	29.04.2005
Raúl Palma	Universidad Politécnica de Madrid	University of Karlsruhe	14.03.2005	14.04.2006
Wolf Siberski	L3S Research Center	Vrije Universiteit Amsterdam	16.02.2005	11.03.2005
Jeff Pan	University of Manchester	Free University of Bozen-Bolzano	31.01.2005	13.02.2005
Heiner Stuckenschmidt	University of Mannheim	L3S Research Center	17.01.2005	11.02.2005
Christoph Tempich	University of Karlsruhe	INESC-ID Lisbon	22.11.2004	11.02.2005
Wolf Winkler	National University of Ireland Galway	University of Karlsruhe	01.11.2004	31.12.2004
Pavel Shvaiko	University of Trento	Institut National de Recherche en Informatique et en Automatique	06.10.2004	03.11.2004
Marta Sabou	Vrije Universiteit Amsterdam	University of Manchester	04.10.2004	06.10.2004

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Klaus Schild	Freie Universität Berlin	National University of Ireland Galway	27.09.2004	01.10.2004
Davide Guidi	University of Bologna	Open University	27.09.2004	27.01.2005
Rafael González-Cabero	Universidad Politécnica de Madrid	University of Southampton	24.09.2004	15.10.2004
Marta Sabou	Vrije Universiteit Amsterdam	University of Sheffield	13.09.2004	15.10.2004
Holger Wache	Vrije Universiteit Amsterdam	University of Trento	30.08.2004	10.09.2004
Rubén Lara Hernández	University of Innsbruck	National University of Ireland Galway	22.07.2004	30.09.2004
Alexander Polleres	University of Innsbruck	National University of Ireland Galway	20.07.2004	11.09.2004
Wolfgang Nejd	L3S Research Center	École Polytechnique Fédérale de Lausanne	12.07.2004	13.08.2004
Angel López-Cima	Universidad Politécnica de Madrid	The Open University	04.06.2004	09.07.2004
M ^a del Carmen Suárez-Figueroa	Universidad Politécnica de Madrid	University of Liverpool	25.02.2004	16.04.2004
Ilya Zahrayeru	University of Trento	University of Innsbruck	16.01.2004	30.01.2004

3.2 Basic Statistics

The following calculations are based on the exchanges listed in the KWeb portal on 08.01.2007. Please note that some exchanges for the period of 2004-2005 have been added/modified after the production of the previous deliverable. The numbers here reflect the current status.

- Grand total days of exchanges: **1726**
- Total days of exchanges in 2004: **627**
- Total days of exchanges in 2005: **883**
- Total days of exchanges in 2006: **216**

- Grand total number of exchanges: **42**
- Number of exchanges in 2004: **16**
- Number of exchanges in 2005: **21**
- Number of exchanges in 2006: **5**

- Overall average time per exchange: **~41 days**
- Average time per exchange in 2004: **~39 days**

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- Average time per exchange in 2005: **~42 days**
- Average time per exchange in 2006: **~43 days**
- Total number of partners involved: **24** (19 KWeb partners and 5 external)

3.3 Exchanges per Partners

The following table presents an overview of exchanges per partner. External partners, i.e. partners outside of the KWeb consortium, are marked with grey. The table is sorted by (i) the total numbers and (ii) the first letters of the organization names.

Total	From	To	Name
9	4	5	University of Karlsruhe
7	6	1	L3S Research Center
7	6	1	Universidad Politécnica de Madrid
7	3	4	Vrije Universiteit Amsterdam
6	2	4	National University of Ireland Galway
6	4	2	University of Manchester
6	5	1	University of Trento
5		5	Free University of Bozen-Bolzano
4	3	1	University of Innsbruck
3	1	2	École Polytechnique Fédérale de Lausanne
3	3		Freie Universität Berlin
3	1	2	Institut National de Recherche en Informatique et en Automatique
3		3	The Open University
2		2	Centre for Research and Technology Hellas
2	1	1	University of Aberdeen
2	1	1	University of Mannheim
2		2	University of Sheffield
1		1	IBM Watson Research Center
1		1	INESC-ID Lisbon
1		1	Stanford University
1	1		University of Bologna
1		1	University of Liverpool
1		1	University of Southampton
1	1		Vrije Universiteit Brussel

4 Analysis of Shared Publications

To analyze shared publications of KWeb partners we analyzed the publicly available data of the DBLP literature database (see <http://www.informatik.uni-trier.de/~ley/db/>), a computer science bibliography provided by the Universität Trier.

Before we present the data we give a brief discussion on the collection of the data. First, publications of KWeb members available in DBLP start in 1984. However, the number of shared publications before 1999 can be neglected. Most of them are joint papers of Fensel and Studer who had the same affiliation at that time. Second, the number of publications in DBLP for 2006 might not yet be complete as there is a certain delay between publishing and appearance in DBLP. Thirdly, several members of KWeb changed affiliation during the runtime of KWeb. We did not check affiliations of authors on the papers themselves as the papers are not available in DBLP, only their bibliographic meta data.

We collected all publications (co-)authored by KWeb members. We extracted the list of authors from KWeb portal, i.e. we collected all publications of registered KWeb members at the KWeb portal. Then, we removed duplicates.

This led to a total of **3000** publications in total (1984-2006) and **1170** publications for the runtime of KWeb (2004-2006).

We counted the number of publications that have at least two authors from different institutions. The following table shows the numbers of shared publications for the years 1999 to 2006. The shared publications which have been published after the start of KWeb in 2004 are marked with grey.

Year	Shared Publications
1984-98	Neglectable
1999	14
2000	16
2001	15
2002	23
2003	19
2004	29
2005	46
2006	26

The numbers indicate an increasing collaboration of KWeb partners.

- In the years **1984-2003** the total of publications is 1830 and the total of shared publications is 87 which leads to a “share ratio” of $87/1830 = 4,75\%$
- In the years **2004-2006** the total of publications is 1170 and the total of shared publications is 101 which leads to a “share ratio” of $101/1170 = 8,63\%$

5 Summary and Plans for 2007

The total amount of exchanges per year decreased in 2006. The average duration per exchange increased from ~39 days per exchange in 2004 and ~42 days in 2005 to ~43 days in 2006.

In the years 2004 to 2006, **24 partners** (19 KWeb partners and 5 external) participated in **1726 days of exchange** with an average duration of **~41 days per exchange**.

In 2006 a particular strength has been to establish overseas exchanges with **Stanford University** and **IBM Watson Research Center**. In future we will continue to strengthen the collaboration with the industry area of KWeb to potentially increase the number of exchanges with industrial partners.

The requirement for reporting n-ary exchanges reported in the previous deliverable proved to be less important in practice.

The analysis of DBLP bibliographic meta data revealed an increase of shared publications among KWeb partners. It could be shown that the “**share ratio**” of shared publications vs. total publications of KWeb members increased **from 4,75%** for the years 1984-2003 **to 8,63%** for the years 2004-2006 (runtime of KWeb).

The T-REX program as well as the measurement of the outcome by counting shared publications will be continued in 2007. It is foreseen to put a special emphasize on encouraging female network members to participate in T-REX as well as on encouraging partners which were not so active so far (see Table 3.3).