

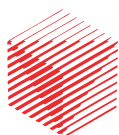
ERCIM

European Research Consortium
for Informatics and Mathematics

Cooperating for Excellence in Research

Activity Report 2014

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ERCIM – the European Research Consortium for Informatics and Mathematics – aims to foster collaborative work within the European research community and to increase cooperation with European industry. In 2014, the members of ERCIM included leading research establishments from 22 European countries. Encompassing over 12 000 researchers and engineers, ERCIM is able to undertake consultancy, development and educational projects on any subject related to its field of activity. ERCIM was founded in 1989.

What is ERCIM?

ERCIM aims to foster collaboration within the European ICST research community and to increase cooperation with industry. Its members are centres of excellence across Europe. ERCIM is internationally recognized as a major representative organization in its field. ERCIM provides access to all major ICST research groups in Europe and has established an extensive program of working groups, publications, fellowships and prizes. It also hosts the European branch of the World Wide Web Consortium (W3C).

ERCIM, a consortium of leading research institutions, was restructured in 2011 and 2012 and has opened its doors to new members. ERCIM focuses on information and communication science and technology (ICST) and related areas of mathematics and has a successful track record of promoting ICST research and cooperation in Europe and beyond. Membership was previously restricted to one member per country, but that limit is now being lifted to allow applications from more top level research institutions (including universities) in ICST from each country.

Objectives

ERCIM's aim is to play a leading role in Information and Communication Technology in Europe by:

- building a Europe-wide, open network of centres of excellence in ICST and Applied Mathematics.
- excelling in research and acting as a bridge for applications
- being internationally recognised both as a major representative organisation in its field and as a portal giving access to all relevant ICST research groups in Europe
- liaising with other international organisations in its field
- promoting cooperation in research, technology transfer, innovation and training.

Members

Member institutes must be leading research establishments with excellent links to both the national and international, academic and commercial research communities. All current ERCIM members are national centres of excellence, independent of specific commercial ties. They have a strong involvement in the research programs of the European Union and their country, and joint projects with both small and medium-sized enterprises and large industrial companies.

Benefit of Membership

ERCIM is a European-wide network internationally recognized as a representative organisation in its field so members can benefit from easy access to all major ICST research groups in Europe. Members can take part in all ERCIM activities including research projects, Working Groups or in the PhD fellowship programme supported by the European Union. They also benefit from ERCIM's privileged partnership with standardisation bodies such as W3C.

International Cooperation

ERCIM considers it a high priority to develop cooperation with scientists all over the world. ERCIM hosts the European branch of the World Wide Web Consortium (W3C), the unique international standardization body which sets the Web standards and protocols (HTML, HTTP, XML, etc.) since 1994. ERCIM participates in EU activities and projects. ERCIM has also established cooperation with ETSI, the European Telecommunications Standards Institute and with the European Mathematical Society. ERCIM is also participating in the European Forum for ICST (EFICST). Its objective is to have a stronger, unified voice for ICST professionals in Europe.

Consultancy

ERCIM experts have been involved in many advisory bodies convened by the European Commission. Additionally, ERCIM senior researchers are participating in several EC-funded roadmapping projects as partners, invited participants or members of advisory boards.

Research Projects

In addition to many projects involving ERCIM member institutes, ERCIM is itself participating in several European Commission related activities and projects as coordinator or partner. In these projects, several member institutes carry out the research while the ERCIM Office takes care of administrative and financial tasks.

Working Groups

Working Groups are specialist networks set up by researchers, within which the ERCIM partners arrange regular workshops with invited external participation to study a specific topic and prepare international research projects.

Innovation

In addition to research in computer science and mathematics, innovation and transfer of research results is one of the ERCIM institutes' current main assignments. ERCIM members play a pioneering role in creating small and medium-sized high-tech companies, an effective way of achieving such a transfer. In addition, ERCIM members have a long track record of cooperation with European industry in R&D projects, generally within the framework of European programmes. As a network, ERCIM can help industrial partners to locate the best scientific teams in Europe for a given domain.

Cor Baayen Award

Each year, ERCIM presents a promising young researcher in computer science and applied mathematics with the prestigious Cor Baayen Award.

Publications

ERCIM publishes the quarterly magazine "ERCIM News", white papers, and policy documents.

The ERCIM community is supported by a Consortium of two bodies:

- ERCIM AISBL an international non for profit association under Belgian law, carrying on the activities of ERCIM concerning collaborative research, networking, and support.
- ERCIM EEIG, the European Economic Interest Grouping, responsible for managing the ERCIM Office and hosting the European branch of W3C.

ERCIM Association

The ERCIM association is managed by the Board of the Association. In 2014, the board was composed of:

- Domenico Laforenza, IIT-CNR, Italy: President:
- Chrisos Koulamas, ISI,Greece: Treasurer
- Jerzy Tiuryn, University of Warsaw, Poland: Secretary

and in addition:

- Dimitris Plexousakis, Institute of Computer Science, Foundation for Research and Technology (FORTH) – Hellas, Greece, responsible for scientific aspects (working groups, etc.)
- Claude Kirchner, Inria, France, responsible for human capital
- Andreas Rauber, AARIT, Austria, responsible for outreach activities.

The majority of these board members lead a task group consisting of ERCIM member representatives or substitutes.

ERCIM EEIG

The ERCIM EEIG is governed by the EEIG Board of Directors. In 2014 the board was composed of:

- Jos Baeten (Vice-President of the EEIG), CWI
- Michel Cosnard, Inria (President of the EEIG)
- Matthias Jarke, Fraunhofer-Gesellschaft
- Domenico Laforenza, CNR
- Juan Bicaregui, STFC
- Constantine Stephanidis, ICS-FORTH

and its activities were carried out by an Executive Committee composed of:

- Thomas Bendig, Fraunhofer Gesellschaft
- Dick Broekhuis, CWI (chair)
- Michel Loyer, Inria
- Brian Matthews, STFC
- Dimitris Plexousakis, FORTH
- Fausto Rabitti, CNR



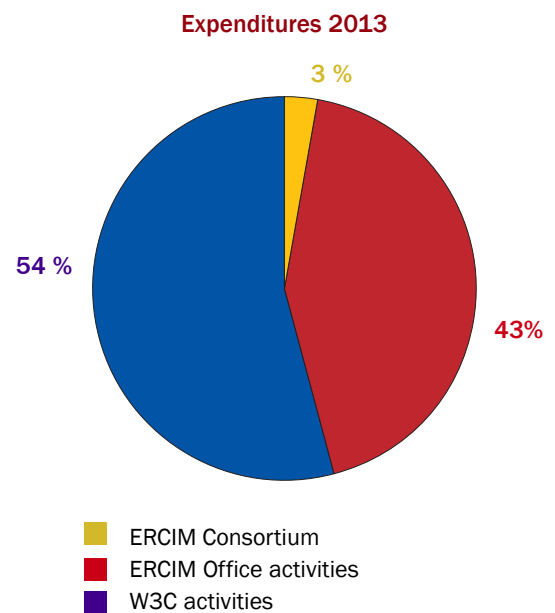
Domenico Laforenza, ERCIM President

Throughout 2014 ERCIM traded as a consortium consisting of ERCIM EEIG and ERCIM AISBL. ERCIM operated with a gross turnover of 7.2 M€.

56% of these funds came from EU funding of projects which was either disbursed to partners in consortia or held over for disbursement in the next year.

Expenditures

ERCIM Consortium activities	237 k€ (3%)
ERCIM Office activities	3.092 k€ (43%)
W3C Europe activities	3.893 k€ (54%)
<hr/> Total	<hr/> 7.222 k€



*Dick Broekhuis, CWI,
ERCIM EEIG Execom chair*





Domenico Laforenza, President of ERCIM



Alberto Sangiovanni Vincentelli



Carlo Ratti



The audience

ERCIM 25th Anniversary Celebration

On the occasion of ERCIM's 25th anniversary, a special session and panel discussion took place on 23 October in the auditorium of the CNR Campus. Speakers and representatives from research, industry, the European Commission, and the ERCIM community presented their views on research and future developments in information and communication science and technology (ICST).

Domenico Laforenza, President of ERCIM welcomed more than 100 ERCIM delegates, ERCIM postdoc fellows and guests to the special anniversary session and symposium. He gave a brief overview on ERCIM's history, achievements and outlook.

Alberto Sangiovanni Vincentelli, Professor at the Department of Electrical Engineering and Computer Sciences, University of California at Berkeley gave insight in cyber-physical systems with his talk "Let's get physical: marrying computing with the physical world".

Carlo Ratti, Director of the Senseable City Lab at the Massachusetts Institute of Technology (MIT), USA described some of the Lab's projects such as exploring the spatio-temporal patterns of mobile phone activity in cities, and "Ambient Mobility", a smart mobility research project to analyze, design, develop and test senseable and sustainable mobility systems in interaction with other future urban systems. "Ambient Mobility" is a joint initiative between the Senseable City Lab at MIT and the Mobility Innovation Lab at the Fraunhofer Institute for Industrial Engineering IAO.

Alain Bensoussan, former President of Inria and one of the co-founders of ERCIM, now Professor of Risk and Decision Analysis at the School of Management at the University of Texas at Dallas, discussed the question: "Big data and big expectations: Is a successful matching possible?"



Alain Bensoussan



The panelists. From left: Carlo Ghezzi, Thomas Skordas, Paola Inverardi, Jean-Pierre Bourguignon, Domenico Laforenza and Fabio Pianesi.

The following two speakers introduced the latest ERCIM White Papers. Rigo Wenning, W3C presented the White Paper “Security and Privacy Research Trends and Challenges”. The White Paper “Big Data Analytics: Towards a European Research Agenda”, was presented by Fosca Giannotti, ISTI-CNR (see also articles on pages 9 and 10).

Radu Mateescu, senior researcher at Inria Grenoble - Rhône-Alpes and chair of the ERCIM Working Group on Formal Methods for Industrial Critical Systems then presented the achievements of two decades of this ERCIM Working Group which has achieved world-wide recognition in this field.

The presentations were followed by a panel discussion on the topic “ICT Research in Europe: How to reinforce the cooperation between the main actors and stakeholders”. The panel was moderated by Carlo Ghezzi, President, Informatics Europe (Politecnico di Milano, Italy). The participants were Domenico Laforenza, President, ERCIM AISBL (CNR), Fabio Pianesi, Research Director, ICT Labs, European Institute for Innovations and Technology, Jean-Pierre Bourguignon, President of the European Research Council (ERC), Paola Inverardi, ICT Italian Delegate, Rector of the University of L'Aquila, Italy and Thomas Skordas, head of the FET Flagships Unit, European Commission, DG Communications Networks, Content and Technology (DG CNECT).

Juan Reutter, Assistant Professor at the Department of Computer science at the Catholic University of Chile,



Cor Baayen

received the 2014 ERCIM Cor Baayen Award from Cor Baayen, ERCIM’s president d’honneur himself and closed the session with a talk about his work, which deals mainly with foundations of data management.

In conjunction with the anniversary event, CNR also hosted the fourth ERCIM ABCDE Fellowship Seminar and the regular ERCIM Fall meetings. The Fellowship Seminar was a two-day event for postdoctoral ERCIM fellows hosted in the frame of the ERCIM ABCDE fellowship programme, supported by the FP7 Marie Curie Actions - People, Co-funding of Regional, National and International Programmes (COFUND). 20 fellows participated in the seminar.

<http://www.ercim.eu/25years>



Participants at the gala dinner.



From left: Domenico Laforenza, Alain Bensoussain, Cor Baayen, Keith Jeffery and Michel Cosnard.

A major activity within the scope of the Association's mission is related to the promotion of excellence in research and the maintenance of a strong portfolio of scientific activity, materialized in the form of ERCIM-led and coordinated joint research projects and ERCIM-hosted Working Groups. The Science Task Group aims to enable, encourage, sustain and coordinate scientific activities in the form of collaborative research projects and working groups in areas of ICST and Mathematics within which significant research activity is taking place at Institutions within and beyond ERCIM.

The Science Task Group is therefore divided into two subtasks:

- Working Groups for building and maintaining a strong network of ERCIM researchers in the different scientific fields of competence of ERCIM.
- Projects for stimulating the submission of ERCIM-led strategically relevant projects and for helping to define the topics for the yearly ERCIM Conference

The members of the Science Task Group in 2014:

Chair:

- Dimitris Plexousakis, FORTH, subtask “Working Groups”

Members:

- Manuel Carro, SPARCIM
- João Falcão e Cunha, INESC
- Pierre Guisset, ERCIM office
- Thierry Priol, Inria
- Leszek Pacholski, University of Wroclaw
- Jean-Jacques Quisquater, FNRS
- Björn Levin, SICS
- Fausto Rabitti, CNR
- Philippe Rohou, ERCIM office
- Julius Stuller, CRCIM

The Science TG can be contacted at tg-science@ercim.eu



*Dimitris Plexousakis, ICS-FORTH
chair of the ERCIM Science Task Group*

Computational and Methodological Statistics

The Working Group Computing and Statistics focuses on all computational aspects of statistics. Of particular interest is research in important statistical applications areas where both computing techniques and numerical methods have a major impact. The working group gathers over 300 members and is organised in eleven specialized tracks. The aim is twofold: first, to consolidate the research in computational statistics that is scattered throughout Europe; second to provide researchers with a network from which they can obtain unrivalled sources of information about the most recent developments in computational statistics and applications. Emphasis is put on computational methods with computational statisticians being the primary target of the WG.

Coordinator:

Erricos Kontoghiorghes, School of Computer Science and Information Systems, Birkbeck, University of London

Organised event:

7th International Conference of the ERCIM WG on Computational and Methodological Statistics, and 8th International Conference on Computational and Financial Econometrics, Pisa, Italy, 6-8 December 2014.

<http://www.cmstatistics.org/ERCIM2014/>

Joint publications:

- Ana Colubi, Thierry Denoeux: Special issue on imprecision in statistical data analysis, in *Computational Statistics & Data Analysis* Volume 71, March 2014, pp 787–788. <http://dx.doi.org/10.1016/j.csda.2013.10.013>
- Dankmar Böhning, Christian Hennig, Geoffrey J. McLachlan and Paul D. McNicholas: The 2nd special issue on advances in mixture models, in *Computational Statistics & Data Analysis* Volume 71, March 2014, pp 1–2. <http://dx.doi.org/10.1016/j.csda.2013.10.010>
- Cathy W.S. Chen, David Dunson, Sylvia Frühwirth-Schnatter, Stephen G. Walker: Special issue on Bayesian computing, methods and applications, in *Computational Statistics & Data Analysis* Volume 71, March 2014, pp 273. <http://dx.doi.org/10.1016/j.csda.2013.10.011>
- S. Ejaz Ahmed, Gerda Claeskens, Hidetoshi Shimodaira, Stefan Van Aelst: Special issue on Model Selection and High Dimensional Data Reduction, in *Computational Statistics & Data Analysis* Volume 71, March 2014, pp 652–653. <http://dx.doi.org/10.1016/j.csda.2013.11.005>
- Peter Filzmoser, Cristian Gatu, Achim Zeileis: Special issue on statistical algorithms and software in R, in *Computational Statistics & Data Analysis* Volume 71, March 2014, Pages 887–888. <http://dx.doi.org/10.1016/j.csda.2013.10.012>
- Steven Gilmour, Roger W. Payne: Special issue on algorithms for design of experiments, in *Computational Statistics & Data Analysis* Volume 71, March 2014, pp 1064–1065. <http://dx.doi.org/10.1016/j.csda.2013.10.001>
- Erricos J. Kontoghiorghes, Herman K. Van Dijk et al.: CFEnetwork: The Annals of Computational and Financial Econometrics: 2nd Issue, in *Computational Statistics & Data Analysis* Volume 76, August 2014, pp 1–3. <http://dx.doi.org/10.1016/j.csda.2014.04.006>

Working Groups

The activities of a Working Group can be divided into several areas: workshops to build the community and maintain its vibrancy, projects designed to advance research and innovation in the particular area of the group, and human mobility to assure the appropriate trained human capital. ERCIM provides some financial support to the Working Groups.

A major activity of an ERCIM Working Group is to search actively for project funding that crosses national borders.

ERCIM Working Groups contribute many of the articles in ERCIM News and commonly provide scientific coordination for the special theme sections. They also participate in the production of ERCIM strategic reports.

The purpose of an ERCIM Working Group is to build and maintain a network of ERCIM researchers in a particular scientific field. The Working Groups are open to any researcher in the specific scientific field.

Working Groups with activities in 2014

- Computational and Methodological Statistics
- Dependable Software-Intensive Embedded Systems
- Formal Methods for Industrial Critical Systems
- Multimedia Understanding through Semantics Computation and Learning - MUSCLE
- Security and Trust Management
- Software Engineering for Resilient Systems

Dependable Software-Intensive Embedded Systems

Dependable embedded software-intensive systems technology challenges are addressed with topics on current research, solutions, examples, professional and academic education, and training. Dependable systems are systems that can justifiably be relied on throughout the complete life cycle and under all possible conditions of use. System attributes comprise safety, reliability, maintainability, survivability, availability and security, their relative impact and implementation depending on the application. The ERCIM Working Group 'Dependable Software-Intensive Embedded Systems' organised several exhibitions and events where ERCIM was promoted.

Coordinators:

Erwin Schoitsch, Austrian Research Centers/AARIT and Amund Skavhaug, NTNU

Organised events:

- Workshop on Dependable Embedded and Cyber-physical Systems and Systems-of-Systems (DECSoS'14) at SAFECOMP 2014, 9 September 2014 in Florence, Italy
- A joint Special Session "Teaching, Education and Training for Dependable Embedded and Cyber-physical Systems" at the Euromicro Conference on Digital System Design (DSD) and Software Engineering and Advanced Applications (SEAA) 2014 in Verona, Italy, 27-29 August 2014. The session was jointly organized by the ERCIM DES WG, Euromicro and the ARTEMIS Education & Training Working Group.

<http://www.ercim.at/>

Formal Methods for Industrial Critical Systems

Formal methods have been advocated as a means of increasing the reliability of systems, especially those which are safety or business critical, but the industrial uptake of such methods has been slow. This is due to the perceived difficulty of mathematical nature of these methods, the lack of tool support, and the lack of precedents where formal methods have been proven to be effective. It is even more difficult to develop automatic specification and verification tools due to limitations like state explosion, undecidability, etc. The FMICS Working Group brings together researchers of the ERCIM consortium and beyond in order to promote the use of formal methods within industry.

Coordinator:

Radu Mateescu, Inria (until November 2014),
Tiziana Margaria, University of Limerick (since November 2014)

Joint project:

SENSATION - Self Energy-Supporting Autonomous Computation

The main goal of SENSATION is to increase the scale of systems that are self-supporting by balancing energy harvesting and consumption up to the level of complete products. In order to build such Energy Centric Systems, embedded system designers face the quest for optimal performance within acceptable reliability and tight energy bounds. Programming systems that reconfigure themselves in view of changing tasks, resources, errors and available energy is a demanding challenge. The project is funded by EC 7th FP and has a duration of three years from October 2012 to September 2015.

<http://www.sensation-project.eu/>

Organised event:

FMICS 2014 - 19th International Workshop on Formal Methods for Industrial Critical Systems, Florence, Italy 11-12 September 2014

Joint publications:

- Alessandro Fantechi and Francesco Flammini: Formal methods for railway control systems, special section of the Springer Int. Journal on Software Tools for Technology Transfer STTT 16(6), 2014. <http://link.springer.com/journal/10009/16/6/page/1>
- Gwen Salaün and Bernhard Schätz: Science of Computer Programming 80(A), 2014. <http://dx.doi.org/10.1016/j.scico.2013.01.008>

<http://www.inrialpes.fr/vasy/fmics/>

Multimedia Understanding through Semantics Computation and Learning - MUSCLE

MUSCLE (formerly Image and Vision Understanding) is the ERCIM Working Group on multimedia understanding through semantics, computation and learning. It gathers teams from both ERCIM and non-ERCIM institutions whose expertise ranges from machine learning and artificial intelligence to image, video and audio processing, and multimedia database management. The group is closely collaborating with ibai-publishing (www.ibai-publishing.org) which provides open-access journals in the fields of Data Mining, Case-Based Reasoning, and Mass Data Analysis of Signals and Images.

Coordinator:

Emanuele Salerno, ISTI-CNR

Joint project:

ITACA - Innovative Tools for cultural heritage ArChiving and restoration

ITACA aims at testing innovative technologies to be applied to non-invasive diagnostics and restoration of virtual heritage. Funded under the PIA - Pacchetti Integrati di Agevolazione Industria, Artigianato e Servizi, ITACA combines the traditional restoration activities and intervention on the artifacts by means of multispectral acquisition, methods of image processing and computer systems through the medium of digital archiving and intelligent search.
<http://www.teacz.com/itaca>

Organised event:

MUSCLE international workshop on computational intelligence for multimedia understanding, Paris, 1-2 November 2014.

Joint publications:

- A. Tonazzini, E. Salerno, V. Palleschi, G. Bianco, F. De Filippo: Extracting information from multimodal images of documents and artworks, in 6th International Congress on Science and Technology for the Safeguard of Cultural Heritage in the Mediterranean Basin (Athens, 22-25 October 2013), Proceedings, Vol. III - Museums; Cultural identity; Sustainable development pp. 196-204, 2014.
- A. Tonazzini, P. Savino, E. Salerno: A non-stationary density model to separate overlapped texts in degraded documents, in Signal, Image and Video Processing, December 2014, pp.1-10. <http://dx.doi.org/10.1007/s11760-014-0735-3>
- E. Salerno, A. Tonazzini, E. Grifoni, G. Lorenzetti, S. Legnaioli, M. Lezzerini, L. Marras, S. Pagnotta, V. Palleschi: Analysis of multispectral images in cultural heritage and archaeology, J. Appl. Las. Spectr., Vol. 1, No. 1, pp. 22-27, 2014. <http://www.alslab.net/WPMH/wp-content/uploads/2014/09/4.Analysis-of-Multispectral-Images-in-Cultural-Heritage-and-Archaeology.pdf>
- A. Tonazzini, P. Savino, E. Salerno: Non-stationary modeling for the separation of overlapped texts in documents, in proc. of Signal Processing and Communications Applications Conference (SIU 2014), pp. 2314-2318, ISBN 978-1-4799-4874-1.
- Alaydin, J.G. ; Cankaya Univ., Ankara, Turkey ; Gulen, S.H. ; Trocan, M. ; Toreyin, B.U.: Graph-cut-based compression algorithm for compressed-sensed image acquisition, in proc. of Signal Processing and Communications Applications Conference (SIU), 2014. <http://dx.doi.org/10.1109/SIU.2014.6830726>

<http://wiki.ercim.eu/wg/MUSCLE>

Security and Trust Management

The ERCIM Working Group Security and Trust Management aims at focussing the research of the ERCIM institutions on a series of activities, for example projects and workshops, to foster the European research and development on security, trust and privacy in ICST.

Coordinator:

Pierangela Samarati, University of Milan

Organised event:

10th International Workshop on Security and Trust Management (STM 2014), in conjunction with ESORICS 2014, Wrocław, Poland, 10-11 September 2014

Joint publications:

- Javier Lopez, Fabio Martinelli, Pierangela Samarati (eds.): ERCIM White paper on Cyber-security and privacy research. <http://www.ercim.eu/images/stories/pub/white-paper-STM.pdf>

<http://www.iit.cnr.it/STM-WG>

Software Engineering for Resilient Systems

SERENE considers resilient systems as open and distributed systems that can dynamically adapt in a predictable way to unexpected events. Engineering such systems is a challenging issue still not solved. Achieving this objective is a very complex task since it implies reasoning explicitly and in a combined way, on system's functional and non-functional characteristics.

SERENE advocates that resilience should be explicitly included into traditional software engineering theories and practices and should become an integral part of all steps of software development. As current software engineering practices tend to capture only normal behavior, assuming that all abnormal situations can be removed during development, new software engineering methods and tools need to be developed to support explicit handling of abnormal situations. Moreover, every phase in the software development process needs to be enriched with phase specific resilience means..

Coordinator: Didier Buchs, University of Geneva (SIRA)

Organised event:

SERENE 2014 - 6th International Workshop on Software Engineering for Resilient Systems, Budapest, 15-16 October 2014 .

<http://serene.disim.univaq.it/2015/working-group/>

In 2014, ERCIM participated in fifteen research projects funded by the European Commission either as coordinator or as a partner.

A European project can be a richly rewarding tool for pushing your research or innovation activities to the state-of-the-art and beyond. Through ERCIM, our member institutes have participated in more than 80 projects funded by the European Commission in the ICT domain, by carrying out joint research activities while the ERCIM Office successfully manages the complexity of the project administration, finances and outreach.

Horizon 2020: How can you get involved?

The ERCIM Office has recognized expertise in a full range of services, including:

- Identification of funding opportunities
- Recruitment of project partners (within ERCIM and through a strategic partnership with Ideal-IST)
- Proposal writing and project negotiation
- Contractual and consortium management
- Communications and systems support
- Organization of attractive events, from team meetings to large-scale workshops and conferences
- Support for the dissemination of results

How does it work in practice?

Contact the ERCIM Office to present your project idea and a panel of experts within the ERCIM Science Task Group will review your idea and provide recommendations. Based on this feedback, the ERCIM Office will decide whether to commit to help producing your proposal. Note that having at least one ERCIM member involved is mandatory for the ERCIM Office to engage in a project.

If the ERCIM Office expresses its interest to participate, it will assist the project consortium as described above, either as project coordinator or project partner.

For more information, please contact:
 Philippe Rohou, Project Group Manager
 Tel: +33 492 385 010
 E-mail: philippe.rohou@ercim.eu

Project acronym	ERCIM's role	ERCIM members/partners involved
ABCDE	coordinator	all ERCIM members
AXES	coordinator	Katholieke Universiteit Leuven (FNRS/FWO), Inria, Fraunhofer IAIS
COMPOSE	partner	ERCIM EEIG/W3C, Fraunhofer-Gesellschaft
D-CENT	partner	W3C
Global ITV	partner	ERCIM EEIG/W3C, Fraunhofer FOKUS
HTML5Apps	coordinator	ERCIM EEIG/W3C
iMarine	coordinator	CNR, FORTH
LIDER	partner	ERCIM EEIG/W3C, UPM
MediaScape	partner	ERCIM EEIG/W3C
PaaSage	coordinator	STFC, Inria, FORTH
Share PSI 2.0	coordinator	SZTAK, LIST (FNR), Fraunhofer
Smart Open Data	partner	ERCIM EEIG/W3C, UPM (SpaRCIM)
STREWS	coordinator	ERCIM EEIG/W3C, Katholieke Universiteit Leuven (FNRS/FWO)
WAI-ACT	coordinator	ERCIM EEIG/W3C, Fraunhofer FIT, SBA
WAI-DEV	coordinator	ERCIM EEIG/W3C

Overview of projects with ERCIM participation in 2014



ABCDE

Since September 2010, the “ERCIM Alain Bensoussan Fellowship Programme” is co-funded by the FP7 Marie Curie Actions - People, Co-funding of Regional, National and International Programmes (COFUND) of the European Union. This financial support is available for a period of five years. With this support ERCIM co-funded more than 170 fellow-years over the five-year period in hosting institutions member of ERCIM throughout Europe. Topics covered all disciplines in computer science and applied mathematics.

The impact of this co-funding was a considerable increase in the number of ERCIM fellows per annum compared to the previous Fellowship Programme established in 1991. Also, the duration of the fellowships was been extended so that applicants can benefit from one or two periods of twelve months spent in one or two ERCIM member institutes. Additionally, employment conditions were improved, with the option of signing working contracts instead of stipend agreements.

Another important novelty was the annual “ABCDE seminar” where fellows had the opportunity to benefit from specific training on a range of non-scientific skills.

The fourth ABCDE seminar was held in October 2014 in Pisa, Italy, in conjunction with the ERCIM fall meetings. The seminar was attended by 20 fellows and featured topics such as personal development courses, IPR issues and communications techniques.

The high number of awarded fellows is one criteria to measure the success of this programme. Another important impact of the “COFUND” support is that the fellowship programme has significantly widened its scope. ERCIM attracted highly talented people. Scientific cooperation among fellows and research institutes across Europe has been largely developed with the ABCDE project.

ABCDE - Alain Bensoussan Career Development Enhancer is supported by the Marie Curie Co-funding of Regional, National and International Programmes (COFUND) of the European Commission"

EC funding: €3.500,000

ERCIM's role:
ERCIM EEIG project coordinator

ERCIM members involved:
all ERCIM members

Coordinator:
Philippe Rohou, ERCIM Office

Duration:
September 2010 to August 2015

<http://fellowship.ercim.eu>

ABCDE seminar participants



AXES

The AXES project has developed tools that provide various types of users with new engaging ways to interact with audiovisual libraries, helping them discover, browse, navigate, search and enrich archives. In particular, apart from a search-oriented scheme, we will explore how suggestions for audiovisual content exploration can be generated via a myriad of information trails crossing the archive. This will be approached from three perspectives (or axes): users, content, and technology.

Within AXES, innovative indexing techniques were developed in close cooperation with a number of user communities through tailored use cases and validation stages. Rather than just starting new investments in technical solutions, the co-development is proposed of innovative paradigms of use and novel navigation and search facilities. We will target media professionals, educators, students, amateur researchers, and home users.

Based on an existing Open Source service platform for digital libraries, novel navigation and search functionalities will be offered via interfaces tuned to user profiles and workflow. To this end, AXES has developed tools for content analysis deploying classification methods. Information in scripts, audio tracks, wikis or blogs will be used for the cross-modal detection of people, places, events, etc., and for link generation between audiovisual content. Users will be engaged in the annotation process: with the support of selection and feedback tools, they will enable the gradual improvement of tagging performance.

AXES technology will open up audiovisual digital libraries, increasing their cultural value and their exposure to the European public and academia at large.



AXES - Access to Audiovisual Archives is an “Integrated Project” supported by the European Commission under the 7th Framework Programme

EC funding: €5.900,000

ERCIM's role:

ERCIM EEIG project coordinator

ERCIM members involved:

Katholieke Universiteit Leuven (FNRS/FWO), Inria, Fraunhofer IAIS

Scientific coordination:

Tinne Tuytelaars, Katholieke Universiteit Leuven

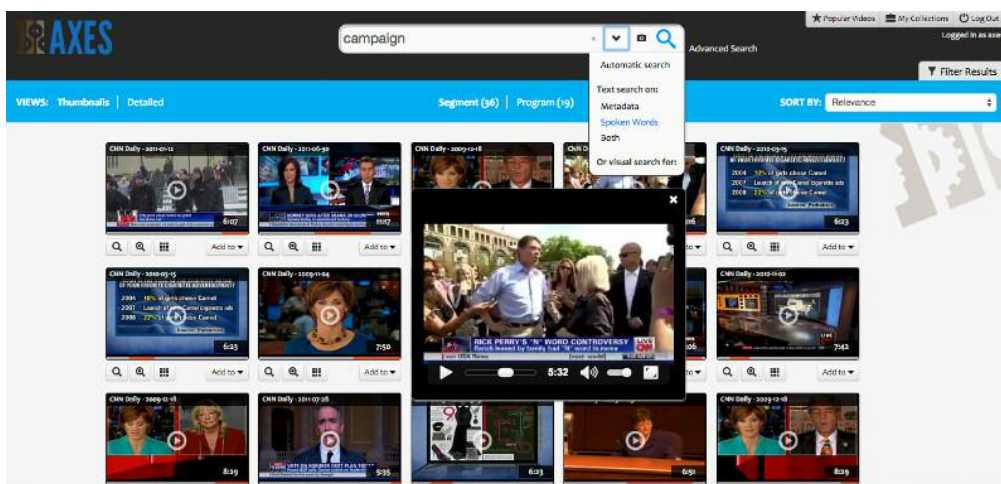
Administrative Coordinator:

Philippe Rohou, ERCIM office

Duration:

January 2011 to March 2015

<http://www.axes-project.eu>



Screen shot of ‘Open AXES’, an output of the AXES project. It gathers innovative audiovisual content analyses technologies including an ergonomic interface to navigate video archives. Open AXES is available on OW2 (the open source community for infrastructure software).



COMPOSE

The COMPOSE project is developing a open source cloud-based platform for IoT services.

The vision of the COMPOSE project is to advance the state of the art by integrating the Internet of Things and the Internet of Content with the Internet of Services through an open marketplace, in which data from Internet-connected objects can be easily published, shared, and integrated into services and applications. The marketplace will provide all the necessary technological enablers, organized into a coherent and robust framework covering both delivery and management aspects of objects, services, and their integration.

- Object virtualization: enabling the creation of standardized service objects;
- Interaction virtualization: abstract heterogeneity while offering several interaction paradigms;
- Knowledge aggregation: creating information from data;
- Discovery and advertisement: of semantically-enriched objects and services;
- Data Management: handle massive amounts and diversity of data/metadata;
- Ad hoc creation, composition, and maintenance: of service objects and services;
- Security, heterogeneity, scalability, and resiliency: incorporated throughout the layers.

COMPOSE strives for a strong impact on a developing market by lowering barriers to develop, select, combine, and use IoT-based standardized value added services. This will be achieved by providing a complete ecosystem, and having it adopted by enterprises, SMEs, government-related bodies, and individual developers and end-users.

The COMPOSE design, development, and validation will be based on innovative use cases highlighting different aspects of the platform. Among the use cases are:

- Smart Shopping Spaces
- Smart City (Barcelona)
- Smart Territory (Trentino).

COMPOSE - Collaborative Open Market to Place Objects at your Service

EC funding: €5.356,000

ERCIM's role:

ERCIM EEIG project partner

ERCIM members involved:

W3C (ERCIM EEIG), Fraunhofer FOKUS

Scientific coordination:

Benny Mandler, IBM Research, Israel

Duration:

November 2012 - October 2015

<http://www.compose-project.eu/>

D-CENT

D-CENT creates digital tools for direct democracy and economic empowerment. It helps communities to share data, collaborate and organize their operations. We are creating a social networking platform for large-scale collaboration. We call for citizens, developers, hackers and open source activists around Europe to work with us.

The abbreviation D-CENT refers to Decentralised Citizens ENGagement Technologies. Besides the platform, the project explores how communities might manage common goods and facilitate online exchange with Bitcoin-style digital social currencies. The project started in October 2013 and will run until May 2016. We have a multidisciplinary partnership from seven countries.

The D-CENT platform is built together with citizens. Pilots running in Finland, Iceland and Spain gather use cases and knowledge from people who have already used online tools for direct democracy on an ad hoc basis. Direct Democracy/Political Empowerment – enabling more direct engagement in democratic decision making. D-CENT builds on Europe's largest experiments in direct democracy, showing how millions of citizens can become engaged in deliberation, and decision-making:

- Spain: 15M citizen movement, one of Europe's most dynamic social movements
- Iceland: Citizen Foundation, Better Reykjavik, and Better Iceland Participation democracy websites
- Finland: Open ministry Crowdsourced lawmaking site linked to Parliament

The second cluster of pilots will connect these new approaches to empowerment to economic platforms, to extend, scale and link up community digital social currencies, and creating the building blocks for an economy that links exchange to trust, deliberation and collective awareness.

Open, scalable, modular technology

D-CENT will be an open, modular and decentralized platform to build privacy-aware applications. The code-base will be described by open specifications and released under an open source license. Developers will be able to easily write API-based apps plus add new modules. The modular platform enables to share in real-time open data, democratic decision making tools, and digital social currency for the social good. The D-CENT platforms will go beyond data aggregation to enable deliberation and collective judgment, informed by feedback.



D-CENT - Decentralised Citizens ENGagement Technologies

EC funding: € 1.905,000

ERCIM's role:
ERCIM EEIG project partner

ERCIM members involved:
W3C (ERCIM EEIG)

Coordinator: Nesta, UK

Duration:
October 2013 to June 2016

<http://dcentproject.eu/>



Global ITV

Global ITV is an EU-Brazil Research and Development Cooperation with the goal to develop an interoperability scheme that allows several iTV and Smart TV systems to work together, exchanging and using the information. The ultimate aim is to lay the foundation for a global interoperable platform.

GLOBAL ITV seeks to harmonise different existing solutions in the domains of interactive, hybrid, connected and web TV on a worldwide level. Key stakeholders from Brazil and Europe have joint forces to define a migration path and a coexistence scenario towards a next-generation hybrid TV platform based on established and open standards in alignment with the developments in the “Web World”. The extensive experience gathered in the past years will be exchanged mutually between the involved partners and their advisors in order to define a viable solution with direct traction on the market and a clear perspective for the future.

The scope of the GLOBAL ITV project is to develop a schema for next generation Hybrid Broadcast-Broadband Systems to define interoperable scenarios and develop reference architectures. Attractive new advanced services and applications will be showcased. The ultimate aim is to create the foundation for a global interoperable platform.

The European partners are: IRT – Institut für Rundfunktechnik GmbH (Germany), Aqua Consult Ingenieros SL (Spain), VESTEL (Turkey), Fraunhofer-FOKUS (Germany), TDF (France), Retevisión SA (Spain), Symelar Innovación (Spain), European Broadcasting Union (Switzerland), and ERCIM/W3C

The Brazilian partners include: Universidade de São Paulo, Universidade Católica de Brasília, Universidade Federal do Pará, Universidade Estadual Paulista “Júlio de Mesquita Filho”, Associação do Laboratório de Sistemas Integráveis Tecnológico, Universidade Estadual de Campinas, Universidade Federal do ABC, BAND TV, HXD Interactive Television.

Global ITV - Interoperability of Interactive and Hybrid TV systems – A new advanced scheme for future services and applications in a global environment

EC funding: € 1.399,998

ERCIM's role:

ERCIM EEIG project partner

ERCIM members involved:

W3C (ERCIM EEIG), Fraunhofer-FOKUS

Duration:

December 2013 to November 2015

<http://www.globalitv.eu/>

HTML5Apps

In contrast to native applications or “apps”, HTML5-based “apps” are platform and device agnostic, meaning that it becomes easy to move apps between devices. However, today, HTML5 lacks important functionalities such as rich APIs to interact with devices and payment support.

The goal of the HTML5Apps project is to close the gap between native and HTML5 apps through the standardisation of missing HTML5 functionalities:

- Standardize OS level APIs for HTML5 apps
- Launch new standardization efforts to close gaps between native apps and HTML5 apps
- Increase European Software Standardization efforts in Software engineering, services and cloud computing

By enabling non-proprietary, standards-based development of apps using HTML5, the HTML5Apps project will liberate developers from the constraints of native app stores and make it easier for consumers to run an app on any device they would like. The HTML5Apps project will develop HTML5 into full-fledged app development environment, creating an alternative to today’s app stores. This will liberate researchers and developers from the limiting rules of proprietary app stores. With HTML5, app developers are not tied to a particular app store, they can chose any app store that supports HTML5 apps, or even distribute the app without going through an app store by just making it available on the Web. HTML5 apps will also be able to avoid revenue sharing with today’s native app stores.

By helping to leverage all these advantages of HTML5 apps for a wider set of apps than today, the HTML5Apps will increase the ability to design and deliver innovative services for SMEs and individual researchers/developers.



HTML5Apps - HTML5 for Apps: Closing the Gaps

EC funding: € 740,000

ERCIM's role:
ERCIM EEIG project coordinator

ERCIM members involved:
W3C (ERCIM EEIG)

Scientific Coordinator:
Philipp Hoschka, W3C

Administrative Coordinator:
Linh Nguyen, ERCIM Office

Duration:
October 2013 to September 2015

<http://html5apps-project.eu/>



LIDER

The project's mission is to provide the basis for the creation of a Linguistic Linked Data cloud that can support content analytics tasks of unstructured multilingual cross-media content. By achieving this goal, LIDER will impact on the ease and efficiency with which Linguistic Linked Data will be exploited in content analytics processes.

The project aims at providing an ecosystem for the establishment of a new Linked Open Data (LOD) based ecosystem of free, interlinked, and semantically interoperable language resources (corpora, dictionaries, lexical and syntactic metadata, etc.) and media resources (image, video, etc. metadata) that will allow for free and open exploitation of such resources in multilingual, cross-media content analytics across the EU and beyond, with specific use cases in industries related to social media, financial services, localization, and other multimedia content providers and consumers. In some cases, we will explore new business model and hybrid licensing schemes for using of Linguistic Linked Data in commercial settings for Free but not Open resources.

LIDER will build upon such existing standards, reference architectures, technologies, and data in order to build the grounds for the use of Linguistic Linked Data for content analytics tasks. Current language resource infrastructures (ELRA, META-SHARE, Monnet, BabelNet) will have a special role and relevance in the project, thus ensuring the adoption of the project outcomes by these infrastructures.

The Expected result is the creation of:

- A strong community around the topic of LOD-based multimedia and multilingual content analytics
- A set of guidelines and best practices for building and exploiting LOD-based resources in multimedia and multilingual content analytics and for developing NLP services on top of Linguistic Linked Data
- A reference architecture for Linguistic Linked Data built on top of existing and future platforms and freely available resources
- A long-term roadmap for the use of Linked Data for multilingual and multimedia content analytics in enterprises.

LIDER - Linked Data as an enabler of cross-media and multilingual content analytics for enterprises across Europe

EC Funding: € 1.482,000

ERCIM's role:

ERCIM EEIG project partner

ERCIM members involved:

UPM (SpaRCIM), W3C (ERCIM EEIG)

Scientific coordination:

Asunción Gómez-Pérez, UPM, Spain

Duration:

October 2012 - September 2016

<http://www.lider-project.eu/>

MediaScape

In times where TVs, smartphones and tablets are all being connected to the Internet, it is increasingly common for people to watch TV at the same time as interacting with their smartphone or tablet. MediaScape is working on helping broadcasters to provide a socially engaging experience across multiple screens for broadcast and streamed content, and associated applications in order to provide the users more consistent multi-device and multi-user media services. This will build upon the success of HTML5 and the marriage of the TV, PC and Mobile worlds.

MediaScape takes connected service development to a new level and lays the foundations for advanced connected multi-user services via a standardised approach integrated into the HTML5 paradigm. In this approach, the three main involved actors take advantage of Mediascape: a) the users, b) the broadcasters and c) developers and service providers.

Benefits of MediaScape for the users

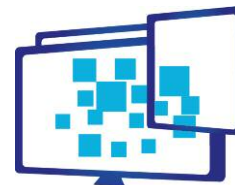
The users will be able move parts of the functionality smoothly from one device to another in an intuitive manner and the application would adapt itself to the device. A user will also be able to handle with different devices being used simultaneously, interacting with a services seamlessly split to the context. The users will be able to manage personal devices together with shared devices (such as TV or an in-car dashboard device) for synchronised experience sharing in multi-user scenarios.

Benefits of MediaScape for the broadcasters

For the broadcasters, MediaScape facilitates the marriage of the TV, PC and Mobile worlds through a standard solution that includes real-time delivery and synchronisation of media contents and applications across a variety of devices, eliminating them the need for the creation and maintenance of totally different developments to provide this kind of services. With MediaScape, broadcasters will be in charge of creating and providing a single application that reaches all target environments.

Benefits of MediaScape for developers and service providers

From a developer and service provider point of view, aspects of resource discovery and association, synchronisation and adaptation can be partially implemented with different tools (JavaScript libraries, APIs, etc.). However these implementations are non-standard, non-interoperable, and non-transparent for the user and do not work within TV type devices which currently rely on proprietary and vendor specific technologies. MediaScape opens up these features to a new developer community - the large and creative group of developers working on the Web, and particularly the growing group working with HTML5 for video, audio and real-time web applications. MediaScape makes it as easy to create these kinds of services as it is to create an HTML web page, treating the TV set as just one part of the ecosystem and including the broadcast simply as a new type of resource - thereby enabling much broader participation in their creation, and increasing the range and diversity of potential applications.



MediaScape - Dynamic Media Service Creation, Adaptation and Publishing on Every Device

EC funding: €3.110,993

ERCIM's role:
ERCIM EEIG project partner

ERCIM members involved:
W3C (ERCIM EEIG)

Scientific coordination:
Igor G. Olaizola, Vicomtech

Duration:
September 2013 - March 2016

<http://www.i-marine.eu>



PaaSAGE

PaaSAGE is a major research initiative with the goal of developing an open and integrated platform to support model based lifecycle management of Cloud applications.

Cloud solutions are currently still insufficient and require a high level of expertise on the part of the developer and the provider to properly exploit the capabilities offered by Cloud technologies. Cloud infrastructures are not standardized and porting an existing application to a Cloud platform is still a very challenging task, leading to a strong interdependence between the client application and the Cloud platform. Developing once and deploying on many Clouds is not a viable proposition as things stand. This is the challenge that the PaaSAGE consortium will address. PaaSAGE will deliver an open and integrated platform to support both design and deployment of Cloud applications, together with an accompanying methodology that allows model-based development, configuration, optimisation, and deployment of existing and new applications independently of the existing underlying Cloud infrastructures.

“PaaSAGE will provide the relevant means to significantly improve programmability, usability and performance of Clouds beyond current state of the art approaches”, says Keith G. Jeffery, scientific coordinator of the project. “We have to admit that European industry is lagging behind in business creation and development on the basis of Cloud computing technologies”, adds Pierre Guisset, project coordinator, “Our objective with PaaSAGE is to develop the tools that will enable European small and large businesses to take a leading position in exploiting Clouds. Typically a business will be developing its in-house server cluster to an in-house Cloud to obtain benefits of elasticity and eco-friendliness. However, when elasticity needs to extend beyond the in-house environment to a public cloud there are interoperability problems and provider proprietary solution constraints. These will be overcome by PaaSAGE”.

PaaSAGE is a collaborative research project co-funded under the ICT theme of the 7th framework programme of the European Union. In particular, PaaSAGE addresses the findings highlighted by the Commission’s Cloud Computing Expert Working Group.

PaaSAGE - Model-based Cloud Platform
Upperware

EC Funding: € 7.100,000

ERCIM's role:
ERCIM EEIG project coordinator

ERCIM members involved:
STFC, Inria, FORTH, University of Cyprus

Scientific coordination:
Keith Jeffery (ERCIM)

Administrative coordination:
Philippe Rohou (ERCIM)

Duration:
October 2012 - September 2016

<http://www.paasage.eu>

Share PSI 2.0

Share-PSI 2.0 is the European network for the exchange of experience and ideas around implementing open data policies in the public sector. It brings together government departments, standards bodies, academic institutions, commercial organisations, trade associations and interest groups to identify what does and doesn't work, what is and isn't practical, what can and can't be expected of different stakeholders.

The impetus for the Share PSI 2.0 Thematic Network is the revised European Directive on the Public Sector Information. This revises and increases the obligations on European Union member states to make their publicly funded data available at zero or, at most, marginal cost. Noting the work of the LAPSI project, which is concerned with legal aspects of Public Sector Information, this project focuses on the practical and technical challenges. What data is covered by the Directive? How should it be published? What can be done to maximise the return on investment, whether in terms of internal efficiencies or external commercial development. What are the existing best standards to use, what new standards need to be developed? These and many more questions are being addressed by Share-PSI 2.0.

The main activity of the network is to organise a series of workshops examining different aspects of PSI. In each workshop, the network partners with direct experience will present their case studies. These will be complemented by external speakers who will be invited via the typical route of a call for participation, peer review of submitted papers and selection by a programme committee.

The output of the workshops will be offered as input to the W3C Data on the Web Best Practices Working Group. As the name suggests, that group is compiling a W3C standard that will help guide people and organisations around the world as they build the Web of data.

Towards the end of the Share-PSI 2.0 network's life (the first half of 2016), the partners will incorporate the W3C Best Practice in their own guidelines as relevant to them in their country or sector of interest.



Share-PSI 2.0



Share-PSI 2.0 - Shared Standards for Open Data and Public Sector Information

EC funding: €917,000

ERCIM's role:

ERCIM EEIG project coordinator

ERCIM members involved:

Fraunhofer FOKUS, Public Research Centre Henri Tudor (FNR), SZTAKI, W3C (ERCIM EEIG)

Scientific coordination:

Phil Archer, W3C

Administrative coordination:

Philippe Rohou, ERCIM Office

Duration:

February 2014 to July 2016

<http://www.w3.org/2013/share-psi/>



Smart Open Data

SmartOpenData will create a Linked Open Data infrastructure (including software tools and data) fed by public and freely available data resources, existing sources for biodiversity and environment protection and research in rural and European protected areas and its National Parks.

This will provide opportunities for SMEs to generate new innovative products and services that can lead to new businesses in the environmental, regional decision-making and policy areas among others. The value of the data will be greatly enhanced by making it available through a common query language that gives access to related datasets available in the linked open data cloud.

The commonality of data structure and query language will overcome the monolingual nature of typical datasets, making them available in multiple languages.

Vision and goal

The vision of the SmartOpenData project is that environmental and geospatial data concerning rural and protected areas can be more readily available and re-usable, better linked with data without direct geospatial reference so different distributed data sources could be easily combined together. SmartOpenData will use the power of Linked Open Data to foster innovation within the rural economy and increase efficiency in the management of the countryside. The project will prove this in a variety of pilot programmes in different parts of Europe.

SmartOpenData goal is making INSPIRE/GMES/GEOSS infrastructure better available for citizens, but also mainly for SME developers. On one hand, Europe and EU invest hundreds of millions of Euros in building the INSPIRE infrastructure. On the other hand, most of European SMEs and citizens use for their applications Google maps. National and regional SDIs offer information which is not available on Google, but this potential is not used. One of the main goals of SmartOpenData is making European Spatial Data easily re-usable not only by GIS experts but also by SMEs.

In order to support Open Data Strategy for Europe and increase re-use of open public data from the European Commission, SmartOpenData will use where possible data and services from EC Open Data Portal2. In addition, any application built on this data source will be registered on this portal3. Same initiative is ongoing on national level, where SmartOpenData participants will try to disseminate the project outcomes in the same way..

Smart Open Data - Linked Open Data for environment protection in Smart Regions

EC Funding: € 2.355,400

ERCIM's role:

ERCIM EEIG project partner

ERCIM members involved:

W3C (ERCIM EEIG), UPM (SpaRCIM),

Project coordinator:

Jesús María Estrada Villegas, Empresa de Transformación Agraria S.A, Spain

Duration:

November 2013 - 31 October 2015

<http://www.smartopendata.eu/>

STREWS

The Web platform is a hotbed of innovation that will affect deployment of technologies and applications for the next decade, and will influence the security and privacy that European users and service providers can achieve. The STREWS project will link European security and trust related research and development with ongoing standards and development work for the Web in IETF and W3C.

The technical scope of the STREWS project is represented by the case studies which identify the key challenges in the future web ecosystem. This is done by (1) assessing the security of the current state-of-practice in a broad setting, and by (2) analysing and improving the security aspects of two highly-promising technological evolutions in the course of the project as part of the case studies. The broad security assessment bundles the recently emerging and upcoming Web features into a single model, and will identify the security weaknesses in current technologies, and drive the short-to-midterm web security roadmap. The two case studies will be analysed sequentially. The first case study, assessing and improving the security aspects in real-time web (WebRTC), will start at the beginning of the project, and yield first results halfway the project. The second case study will run in the second half of the project

The project is also aimed at building a community consensus around the STREWS goals with dissemination both via traditional publication mechanisms but also using dedicated workshops for interaction with W3C and IETF participants, and through sessions in relevant conferences. STREWS' dedicated workshops will be themed around the case studies but will also address and report upon the more generic security platform work done. This task will handle workshop planning, logistics and reporting for both STREWS workshops and co-organised sessions at other events. STREWS will aim to co-locate workshops with relevant conferences.

Another aspect of STREWS is to define a near to mid-term research roadmap for Web security to guide impactful research and development of secure and trustworthy Web technologies. The roadmap will collect areas of Web security which are still underdeveloped, identify missing pieces in the identified research landscape, and point out promising directions for future research. In addition connections between research and standardisation activities will be identified, as well as existing mismatches in the area shown. This way, the roadmap will provide a bigger picture of the field of Web security research, which will aid the decision making process, when it comes to create new research/standardisation activities and future research projects/work programs.



STREWS - Strategic Research Roadmap for European Web Security

EC funding: € 790,000

ERCIM's role:
project coordinator

ERCIM members involved:
ERCIM EEIG/W3C, Katholieke Universiteit Leuven

Scientific coordination:
Rigo Wenning, ERCIM/W3C

Administrative coordination:
Linh Nguyen, ERCIM Office

Duration:
October 2012 - September 2015

<http://www.strews.eu/>



WAI-ACT

WAI-ACT, a Cooperation Framework for Guidance on Advanced Technologies, Evaluation Methodologies, and Research Agenda Setting to Support eAccessibility, addresses critical areas of advanced accessibility support through activities that build upon the strengths of past web accessibility work, harmonizes existing work, and helps shape a research agenda in coordination with key stakeholders in Europe and internationally.

The project addresses the need for expanded European and international cooperation on the development of accessibility solutions for people with disabilities; for consensus-based, authoritative technical guidance to accelerate implementation of advanced technologies; for internationally harmonised evaluation methodologies; and for a coordinated research agenda on eAccessibility.

WAI-ACT addresses these challenges through development of a framework for open, expanded cooperation among European and international stakeholders, technical guidance on advanced web technologies; an evaluation methodology for web accessibility; and a research agenda for eAccessibility. Technical guidance will include a repository of information on accessibility support in web technologies, application notes on authoring accessible web page components, and code samples for web applications.

WAI-ACT will result in:

- Expanded cooperation on the development of accessibility solutions
- Authoritative accessibility guidance on advanced web technologies
- Harmonized methodologies for evaluating accessibility of websites
- Common visions for a coordinated eAccessibility research agenda.

WAI-ACT builds upon the strengths of the W3C Web Accessibility Initiative (WAI) cooperation mechanisms to facilitate strategic European and international participation throughout the project. WAI-ACT also has active exchange with relevant networks in Europe such as eAccess+, and coordinate standardisation activities.

WAI-ACT - Web Accessibility Initiative: Ageing Education and Harmonisation, a Coordination and Support Action supported by the European Commission under the 7th Framework Programme

EC funding: € 999,000

ERCIM's role:
project coordinator

ERCIM members involved:
ERCIM EEIG/W3C, Fraunhofer Institute for Applied Information Technology FIT

Scientific coordination:
Shadi Abou-Zahra, W3C

Administrative coordination:
Jessica Michel Assoumou, ERCIM Office

Duration:
September 2011 to August 2014

<http://www.w3.org/WAI/ACT/>

WAI-DEV

WAI-DEV, Web Accessibility Initiative (WAI) Ecosystem for Inclusive Design and Development, will develop strategies to support mainstream production of inclusive components and services; demonstrate the potential value and showcase good practice in inclusive design; and support enhanced policy strategies for consistent adoption and implementation of accessibility by public and private sector organisations.

WAI-DEV will primarily target the Web as the essential technical platform and universal interface for information and communication technology (ICT) through which to address the accessibility of advanced technologies and delivery channels including those for mobile devices, portable computers, digital television, telephony, and more. It will build upon recent technical and policy advancements in accessibility and on the cross-cutting benefits of accessibility for everyone regardless of age, gender, software, hardware, connectivity, language, literacy, digital skills, social and economic situations, and physical and mental abilities. It will thereby facilitate more mainstream market adoption of accessible and inclusive design-for-all practices throughout the production chain, and support implementation of accessibility policies and targets set by the European Commission and EU Member States.

WAI-DEV will result in:

- Support for industrial strategies for the production of inclusive components and services;
- Demonstration of the social and economic value and of good practice in inclusive design;
- Enhanced policy strategies that support the adoption and implementation of accessibility.

WAI-DEV is a coordination and support action project, co-funded by the European Commission as a Specific Support Action under the IST 7th Framework Programme. The project is led by the W3C Web Accessibility Initiative.



WAI-DEV - WAI-DEV : Web Accessibility Initiative (WAI) Ecosystem for Inclusive Design and Development

EC funding: € 499,000

ERCIM's role:
project coordinator

ERCIM members involved:
ERCIM EEIG/W3C,

Scientific coordination:
Shadi Abou-Zahra, W3C

Administrative coordination:
Jessica Michel Assoumou, ERCIM Office

Duration:
February 2014 to July 2016

<http://www.w3.org/WAI/DEV/>

Human Capital (HC) is a central concern within all organizations. In ERCIM its main focus is the European cooperation of different entities with their own HC policies. To this end we are currently building on two key activities. The first is the ERCIM post-doc fellowship programme that has been in existence for a long time and has been reinforced and further stimulated by the support of the European project “ABCDE”. This programme facilitates the participation of young scientists in research teams within ERCIM member institutes by organizing postdoctoral fellowships. In addition to mobility in high quality teams, it helps participants further their understanding of the European research environment and carrier capabilities. The second activity is the Cor Baayen Award that acknowledges the achievements of young research scientists from European teams in informatics or mathematics.

There is scope for further development of both of these tools, but we would also like to create new schemes for mobility between ERCIM members. In particular, in addition to post-docs, we would like to foster mobility of all scientists, including phd students, engineers and management and administration professionals.

ERCIM’s Human Capital Task Group is in charge of supervising these actions and proposing new directions. In 2014 the group was composed of:

- Tore R. Jørgensen, NTNU
- Claude Kirchner, Inria (chair)
- Adriana Lazzaroni, CNR
- Emma Lière, ERCIM Office
- Laszlo Monostori, SZTAKI
- Leszek Pacholski, PLERCIM
- Julius Stuller, CRCIM
- Pierre Wolper, FNRS/FWO
- Edgar Weippl, AARIT

*Claude Kirchner, Inria, chair of the
ERCIM Human Capital Task Group*





“Alain Bensoussan” Fellowship Programme

The PhD Fellowship Programme has been established as one of the premier activities of ERCIM. Since its inception in 1991, over 400 fellows have passed through the programme. In 2014, 45 young scientists commenced an ERCIM PhD Fellowship and 97 fellows have been hosted during the year. This represents 638 person-months.

The ERCIM Fellowship Programme is open to young researchers from all over the world. It focuses on a broad range of fields in Computer Science and Applied Mathematics.

The fellowship scheme also helps young scientists to improve their knowledge of European research structures and networks and to gain more insight into the working conditions of leading European research institutions. In 2014, many of the hosted fellows were native of countries outside the European Union. This reflects ERCIM's contribution to make Europe not only the world's biggest 'brain factory' but also a large 'brain magnet' in the field of informatics and applied mathematics.

The fellowships are of 12 months duration, spent in one of the ERCIM member institute. Fellows can apply for second year in a different institute.

Fellowship Programme co-funded by the European Commission



The “ERCIM Alain Bensoussan Fellowship Programme” was supported by the FP7 Marie Curie Actions - People, Co-funding of Regional, National and International Programmes (COFUND) of the European Commission. 161 fellowships were granted under the Programme.

The fellows had the opportunity to participate in a yearly “ABCDE seminar” offering specific training on a range of non-scientific skills. Seminars were held in Berlin in November 2011, in Sophia Antipolis, France, in October 2012 and in Athens in October 2013. A fourth and last seminar was organised in 2014.

The project ends in August 2015.

Conditions

Candidates must:

- have obtained a PhD degree during the last eight years (prior to the application deadline) or be in the last year of the thesis work with an outstanding academic record
- be fluent in English
- have no obligations with respect to military service which could impact on the fellowship
- have completed their PhD before starting the grant.

The fellows are appointed either by a stipend (an agreement for a research training programme) or a working contract. The type of contract and the monthly allowance/salary depends on the hosting institute.

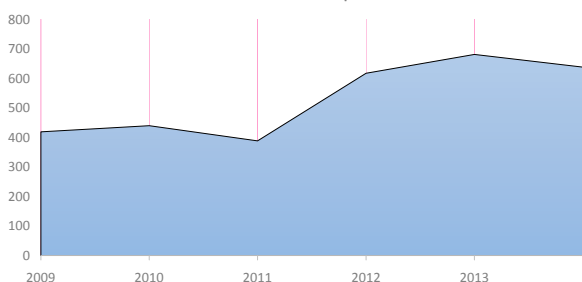
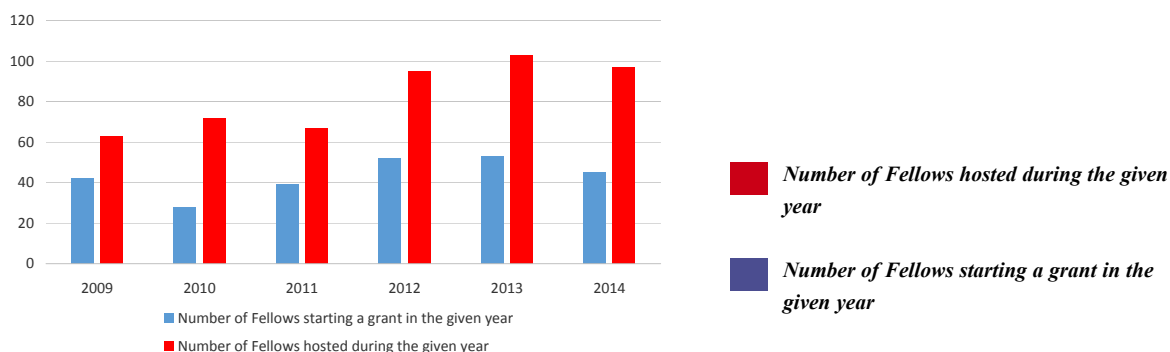
Deadlines for applications are currently 30 April and 30 September each year.

Since 2005 the Fellowship Programme has been named in honour of Alain Bensoussan, former president of Inria, one of the three ERCIM founding institutes.

<http://www.ercim.eu/activity/fellows>

ERCIM Fellows hosted in 2014

- Dhaminda Abeywickrama at Fraunhofer-Gesellschaft
- Dirk Ahlers at NTNU
- Doreid Ammar at VTT
- Andres Aristizabal at University of Wroclaw
- Muhammad Asfand-e-yar at CRCIM
- Giorgi Baghaturia at University of Warsaw
- Igor Bakovic at University of Warsaw
- Demis Ballis at SpaRCIM
- Fehmi Ben abdesslem at SICS
- Federico Benvenuto at INRIA
- Gautier Berthou at SICS
- Pinaki Bhaskar at CNR
- Muhammad khurram Bhatti at SICS
- Kaveri Bhuyan at NTNU
- Andrii Bondarenko at NTNU
- Rohit Chandra at NTNU
- Andrea Cristofaro at NTNU
- Antitza Dantcheva at INRIA
- Katrien De Moor at NTNU
- Maurizio De Pittà at INRIA
- Ioannis Dimitriou at INRIA
- Nima Dokoohaki at SICS
- Lei Dong at NTNU
- Jingjing Du at NTNU
- Soma Dutta at University of Warsaw
- Sarah Eagle at NTNU
- Semya Elaoud at INRIA
- Desmond Elliott at CWI
- Joana Goncalves at CWI
- Dan Grois evjeny at Fraunhofer-Gesellschaft
- Senka Hadzic at Fraunhofer-Gesellschaft
- Antti Haimi at NTNU
- Sean Halle at CWI
- Ralf Hannemann-tamas at NTNU
- Sarvjeet Herald at University of Southampton
- Andrea Hess at SICS
- Chengchen Hu at NTNU
- Jija S James at INRIA
- Emil Robert Kaburuan at SICS
- Chamath Keppitiyagama at SICS
- Malik Muhammad Zaki Murtaza Khan at NTNU
- Pawan Kumar at Fraunhofer-Gesellschaft
- Antti Kuusisto at University of Wroclaw
- Alexander Lundervold at INRIA
- Rajib Ranjan Maiti at CNR
- Michaël Marcozzi at INRIA
- Sara Regina Martin roman at NTNU
- Jonas Martinez at INRIA
- Miguel Angel Martinez-del-amor at Fraunhofer-Gesellschaft
- Arash Maskooki at INRIA
- Liam Mcnamara at SICS
- David Mera at CRCIM
- Antonis Michalakis at SICS
- Matteo Mio at CWI
- Manoranjan Mohanty at SICS
- Jean-marc Montanier at NTNU
- Yassine Mrabet at FNR
- Gergely Neu at INRIA
- Maddalena Nurchis at VTT
- Fabrizio Orlandi at Fraunhofer-Gesellschaft
- Matthew Orlinski at Fraunhofer-Gesellschaft
- Victor chukwudi Osamor at University of Warsaw
- Nikolai Osipov at NTNU
- Jonathan Ouoba at VTT
- Isil Oz at SICS
- Partha Pakray at NTNU
- Partha Pakray at CRCIM
- Susovan Pal at INRIA
- Lin Pan at FNR
- Bidyut Kumar Patra at VTT
- Murray Patterson at CWI
- James Potter at VTT
- Erik Quaeghebeur at CWI
- Fabien Racape at Fraunhofer-Gesellschaft
- Arne Reimers at CWI
- Markku-juhani Saarinen at NTNU
- Indrajit Saha at University of Wroclaw
- Alan Said at CWI
- Pierluigi Salvo rossi at NTNU
- Markus Santoso at Fraunhofer-Gesellschaft
- Simon Scerri at Fraunhofer-Gesellschaft
- Jodi Schneider at INRIA
- Byung-kuk Seo at Fraunhofer-Gesellschaft
- Syed Muhammad Ali Shah at SICS
- Dimitrios Simos at SBA Research
- Maria Suarez taboada at CWI
- Marco Tiloca at SICS
- Italo Toselli at Fraunhofer-Gesellschaft
- Christoph Trattner at NTNU
- Alexander Turner at NTNU
- Kameswar Rao Vaddina at NTNU
- Marco Volpe at INRIA
- Brenton Walker at SICS
- Ting Wang at INRIA
- Rengmao Wu at SpaRCIM
- Tomofumi Yuki at INRIA
- Davide Zambrano at CWI



Person/months equivalents for the fellows hosted from 2008 to 2014

Juan Reutter receives the 2014 Cor Baayen Award

Juan Reutter, assistant professor at the department of computer science at the Catholic University of Chile, receives the 2014 ERCIM Cor Baayen Award. The Cor Baayen Award is given annually by ERCIM to a promising young researcher in the field of Informatics and Applied Mathematics.

Juan's main field of interest is foundations of data management. His PhD thesis entitled "Graph Patterns: Structure, Query Answering and Applications in Schema Mappings and Formal Language Theory", prepared at the university of Edinburgh under the supervision of Leonid Libkin, is in the area of graph data management. The main goal of Juan's thesis was the study of graph patterns and querying mechanisms for them. His work provided a full classification of the expressive power of graph patterns based on regular expressions. One of the key conclusions of the thesis is that querying graph patterns is computationally harder than querying patterns in other paradigms such as relational or XML databases, which has implications, for example, in applications that need to integrate or transform graph data. The computational cost of querying patterns also necessitates the search of tractable restrictions and efficient heuristics. His dissertation shows a connection between querying graph patterns and constraint satisfaction, opening up the route of employing many heuristics developed in that field.

During his PhD, Juan has received several recognitions. For his work in exchanging knowledge bases he got the Best Paper Award at PODS 2011 (a top database conference) and the "Ramon Salas" award for the best work in engineering produced by Chilean researchers on 2012. In his short career Juan has already produced an impressive number of publications and research results in different topics. The list of his publications includes nine journal papers, eleven conference papers, two book chapters and four workshop papers. His work was published in several top-rated conferences and journals, including two journals of the ACM.

After his PhD, studies Juan continued his work in graph data management. He is now studying the problem of static analysis and optimization of graph queries. To pursue this line of research, Juan received a competitive start-up fund for a project called "Query Languages and Views for Graphs with Data", awarded in 2013 by the National Commission for Scientific and Technological Research in Chile. He is also an associate investigator of the "Millennium Nucleus Centre for Semantic Web Research", a competitive research project involving three Chilean universities that is funded by the Chilean Ministry of Economy. Juan has also been working in the field of schema mappings (exchanging data between applications using different schemas, according to a set of predefined translation rules). His most significant contribution is a theoretical framework for studying the exchange of complex databases such as knowledge bases or databases containing ontologies. This work has had implications also outside database theory and is now being cited by several papers in the area of description logics.

For more information about the ERCIM Cor Baayen Award, see <http://www.ercim.eu/activity/cor-baayen-award>



2014 Award

Winner:

- Juan Reutter, Pontificia Universidad Católica de Chile

Honorary mention:

- Marc Stevens, CWI

Finalists:

- Ahmad Al-Shishtawy, SICS Swedish ICT
- Balint Antal, University of Cambridge and University of Debrecen
- Alberto Bacchelli, Delft University of Technology
- Antonio Filieri, University of Stuttgart
- Laszlo Gyongyosi, Budapest University of Technology and Economics, Hungarian Academy of Sciences
- Michal Havlena, ETH Zurich
- Antti Hyttinen, California Institute of Technology
- George Kousiouris, ICCS/NTUA
- Anne-Cécile Orgerie, CNRS
- Samir Perlaza, Inria
- Shahid Raza, SICS Swedish ICT
- John Vardakas, Iquadrat Informatica S.L.

Award Rules

The Cor Baayen Award, given to a promising young researcher in computer science and applied mathematics, was created in 1995 to honour the first ERCIM President and is open to young researchers having completed their PhD thesis in one of the "ERCIM countries". The award consists of a cheque for €5000 together with an award certificate. The successful fellow invited to the ERCIM autumn meetings.

The ERCIM Outreach Task Group is responsible for the communication between ERCIM and its wide range of stakeholders. They include national and international funding bodies, the research community in informatics and applied mathematics, with a focus on both senior scientists and young researchers, as well as industrial R&D. ERCIM considers its outreach activities as an important tool for community building. These include publications such as the ERCIM News magazine, the ERCIM web site and the support and organisation of scientific events.

The well established ERCIM News magazine (see next page), under the responsibility of the editorial board, has already successfully contributed to ERCIM's reputation in the scientific community. It is also a good example of the close cooperation between all ERCIM institutes. In addition to ERCIM News, a number of strategic reports have also been published. All this information can also be accessed via twitter and LinkedIn.

People contributing to the Outreach Task Group policy are:

Silvia Abrahao, SpaRCIM
 Erzsebeth Csehaj-Varju, SZTAKI
 Marios Dikaiakos, UCY
 Truls Gjestland, NTNU
 Marie-Claire Forgue, W3C
 Kersti Hedmann, SICS
 Annette Kik, CWI
 Peter Kunz, ERCIM office

Benoit Michel, FNRS/FWO
 Eleni Orphanoudakis, FORTH
 Carol Peters, CNR
 Martin Prime, STFC
 Andreas Rauber, AARIT (chair)
 Harry Rudin, SIRA
 Erwin Schoitsch, AARIT
 Jiri Zlatuska, CRCIM



ERCIM web site.



*Andreas Rauber, AARIT,
 chair of the ERCIM
 Outreach Task Group*

ERCIM News Editorial Board

(as of December 2014)

Central editor:

- Peter Kunz, ERCIM Office

Local editors:

- Erzsébet Csuha-Varjú, SZTAKI
- Marie-Claire Forgue, W3C
- Poul Heegard, NTNU, Norway
- Joaquim Jorge, INESC ID / PEG, Portugal
- Michal Haindl, CRCIM, Czech Republic
- Kersti Hedman, SICS, Sweden
- Annette Kik, CWI, The Netherlands
- Michael Krapp, Fraunhofer SCAI, Germany
- Silvia Abrahão, Universidad Politécnica de Valencia / SpaRCIM, Spain
- Benoit Michel, Université catholique de Louvain, Belgium
- Eleni Orphanoudakis, ICS-FORTH, Greece
- Carol Peters, ISTI-CNR, Italy
- Thierry Priol, Inria, France
- Harry Rudin, SIRA, Switzerland
- Erwin Schoitsch, AIT Austrian Institute of Technology GmbH/AARIT, Austria
- Nguyen Hung Son, University of Warsaw, Poland
- Thomas Tamsier, Centre de recherche publique Gabriel Lippmann, Luxembourg.

ERCIM News

Since its creation, ERCIM News has evolved from ERCIM's 'in-house newsletter' into a European quarterly magazine in the domains of Information and Computer Sciences, Applied Mathematics and Communication Technologies, published in both printed and online editions.

ERCIM News mainly consists of articles written by scientists and edited according to guidelines designed to make the articles accessible to all target groups. It also includes invited articles by European policy-makers and decision-makers in relevant areas. The objective of ERCIM News is to provide regular and continually updated high-quality and authoritative information concerning European research and innovation activities in the scientific domains of interest. The information is reported in an easily accessible fashion, with references and links being provided so that the interested reader can find more in-depth information on specific topics as needed. The intended target audience is thus international and national scientific policy- and decision-makers, European and national funding agencies, the global scientific community and relevant industrial organisations, with a special focus on the European area. Through the short articles and news items, it provides a forum for the exchange of information between both member institutes and the wider scientific community.

With each issue focusing on a special theme, the ERCIM News series has become a unique collection providing an overview of different topics within information technology. In 2014 ERCIM covered the following special themes:

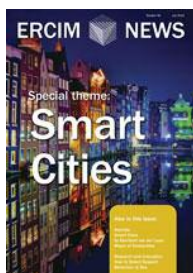
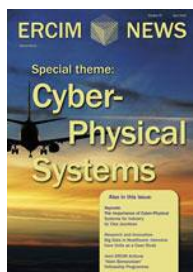
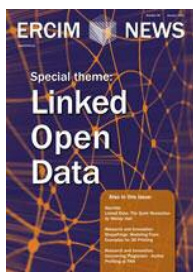
- Linked Open Data
- Cyber-Physical Systems
- Smart Cities
- Software Quality

For each issue, ERCIM News invites a personality to write a keynote statement relevant to the European scientific community. Authors have included

- Wendy Hall, University of Southampton
- Clas Jacobson, United Technologies Systems & Controls Engineering
- Eberhard van der Laan, Mayor of Amsterdam
- Willem Jonker, CEO EIT ICT Labs.

ERCIM News is the result of close cooperation between all ERCIM institutes. It is published in both printed and electronic form. The printed edition has a circulation of about 6,000 copies and is distributed in over 100 countries. The online edition offers full-text searching and the numerous sites and documents quoted can easily be accessed on the Web. ERCIM News has made a significant contribution to the wider recognition of ERCIM.

<http://ercim-news.ercim.eu/>



Issues published in 2014

White Paper

Big Data Analytics:

Towards a European Research Agenda

Editors: Mirco Nanni, Costantino Thanos, Fosca Giannotti and Andreas Rauber

The information hidden within big data may provide the key to solving many problems within society, business and science. However, turning an ocean of messy data into knowledge and wisdom is an extremely challenging task.

This white paper outlines the vision of big data analytics in Europe, based on the fair use of big data with the development of associated policies and standards, as well as on empowering citizens, whose digital traces are recorded in the data. The first step towards this objective is the creation of a European ecosystem for big data analytics-as-a-service, based on a Federated Trusted Open Analytical Platform for Knowledge Acceleration. The goal is to yield a data and knowledge infrastructure that offers individuals, scientists, institutions and businesses: (i) access to data and knowledge services, and (ii) access to analytical services and results within a framework of policies for access and sharing based on the values of privacy, trust, individual empowerment and public good.

ERCIM White Paper

Cyber-Security and Privacy

Editors: Javier Lopez, Fabio Martinelli and Pierangela Samarati

Cyber-security and privacy are very active areas of research, and experts in this field are in growing demand by companies. Research in this area is highly relevant in today's world - many aspects of our daily life depend on ICT - from mobile phones, computers in offices and programmable machines in factories, and intelligent surveillance cameras contributing to our safety. The pervasiveness of ICT increases the potential attack surface available to attackers, expanding the opportunities and potential for damage. Both the number of attackers and motivations for attacks are on the increase, indicating that cyber-security attacks can be a prosperous business.

This white paper identifies research areas that could provide significant contributions to reduce cyber-insecurity and where ERCIM institutions have significant research and innovation capabilities able to drive cooperative research efforts in the field. The following areas were identified: system security; security engineering; security operation management; data protection; security and big data; access control; quantitative aspects of security; practical and usable security; cryptography; trust management systems; digital freedom; network security. In particular, the authors made a list of recommendations for research activities in cyber security and privacy.

ERCIM White Papers

ERCIM launched an initiative to identify emerging grand challenges and strategic research topics in Information and Communication Science and Technology (ICST).

In 2014, two initial Task Groups were formed to investigate topics related to "Big Data Analytics" and "Cyber-Security and Privacy" respectively. Further topics are currently being identified. The groups were composed of researchers representing a broad cross-section of interests, affiliations, seniority, and geography. Their results are published in two White Papers, which are briefly presented in the following two articles.

The full version of both White Papers is available for download from the ERCIM web site at <http://www.ercim.eu/publications/strategic-reports>



The ERCIM office is located in the Inria Sophia Antipolis - Méditerranée Research Centre premises.

ERCIM has an office in Southern France, hosted by Inria and located in the Inria Sophia Antipolis - Méditerranée Research Centre premises, nestled amongst researchers (and surrounded by cicadas). The ERCIM Office manages the day-to-day business of ERCIM as well as the European branch of the World Wide Web Consortium (W3C).

With its team of experts, the ERCIM Office provides assistance to ERCIM members in managing European projects by performing the financial and administrative tasks, either as coordinator or partner. Member institutes can thus fully concentrate on scientific work, unburdened by time-consuming administrative tasks. The office has been involved with more than 80 successful projects. The projects in which the ERCIM Office was involved in 2014 are presented on pages 12-26. They also include projects with participation of the W3C. Some include both W3C and ERCIM members. They provide a nice example of how ERCIM can facilitate cooperation between research institutes and the W3C with its interest in Web standardization.

Hosting and managing the European branch of W3C is another major task of the ERCIM Office. The activities related to W3C represent about the half of ERCIM's budget. Details are given on the following pages.

The ERCIM Office is under the responsibility of the ERCIM EEIG Board of Directors but also handles ERCIM AISBL financial matters and supports the whole ERCIM community in administrative matters such as the management of the ERCIM Fellowship Programme, as well as in communications, for example by hosting and maintaining web sites and by producing ERCIM News.

ERCIM Office employees in 2014

- Caroline Baron, finance and administration manager
- Pierre Guisset, senior consultant
- Peter Kunz, communications and ERCIM News central editor
- Vivien Lacourba, IT manager
- Alexandra Lavirotte, administrative assistant
- Emma Lière, project assistant and Fellowship Programme coordinator
- Jessica Michel Assoumou, project coordinator
- Linh Nguyen, project coordinator and assistant
- Pascale Peyrol, project assistant
- Catherine Riou, administrative assistant
- Samuel Réthoré, systems engineer
- Philippe Rohou, project group manager
- Jean-Guilhem Rouel, systems engineer



Jérôme Chailloux, ERCIM Manager and head of the ERCIM Office.

ERCIM and W3C



W3C is the international forum for the development of technology standards and for stewardship of the Web. The organization creates open standards for technology and best practices so that the Web connects people and serves as a platform for innovation. W3C is building an Open Web Platform to connect humanity in a way that makes access to knowledge more efficient and equitable.

The boundaries of this platform are drawn by the Members and the larger Web community. The platform includes the HTML5 specification, CSS, SVG, WebFonts (WOFF), a growing number of APIs, and many other technologies, all designed to work together on any platform, for any person, anywhere.

ERCIM hosts the European headquarters of the World Wide Web Consortium (W3C). ERCIM and W3C aim to strengthen research relationships throughout Europe to better support the development of Web technology and to jointly share the results of their collaboration.

Five of the European W3C Offices are based at ERCIM institutes, namely at CWI (Benelux); FORTH (Greece); SZTAKI (Hungary); CNR (Italy) and SICS (Sweden). W3C Offices in Europe work with their regional Web communities to promote W3C technology in local languages, broaden W3C's geographical base, and encourage international participation in W3C activities. Specifically, the W3C Offices help organize meetings and workshops.

As a consortium of members from many European countries, ERCIM creates a balance between European diversity and necessary homogeneity by building bridges between different cultures and facilitating the movement of technical ideas within academia and across borders. W3C is very heavily swayed by its members, several of them having interests in the Web (such as HTML5, mobile Web, social Web, Web privacy and security, Big Data, etc.) whereas ERCIM jointly has widespread interest in many research fields where Web standards are rarely used. ERCIM then helps to gather those Web communities and make them work together.

Moreover, ERCIM members have strong ties with industrial partners and start-up companies. This is an excellent opportunity for W3C to enlarge its cooperation with European industry, which can broaden its participation in the making of standards.

Finally, hosting the W3C allows ERCIM members to benefit from the know-how and expertise of the W3C team, and to increase its visibility based on W3C's worldwide reputation. The joint efforts of ERCIM and the W3C have started to increase Web research cooperation in Europe.

2014 Highlights

Workshop on New Horizons for the Multilingual Web

As with previous MultilingualWeb events, this 7th workshop, hosted by UPM and supported by the LIDER Eu project, brought together speakers and participants with an interest in best practices and standards aimed at helping content creators, localizers, tools developers, and others meet the challenges of the multilingual Web. The workshop emphasized new technology developments that may lead to new opportunities for the Multilingual Web, with a specific focus on multilingual linked data.

7th Multilingual workshop report: <https://kwz.me/JH>

Lider EU Project: <http://www.lider-project.eu/>

Workshop on the Web of Things

W3C held a two day workshop on the Web of Things in Berlin on 25-26 June 2014, hosted by Siemens and with the support of the Compose EU project. The Web of Things is expected to have broad and sweeping economic and societal impact. Open standards will be critical to enabling exponential growth of the kind we experienced with the early days of the Web. The workshop examined the

opportunities for open Web standards for service platforms in the network edge (e.g. home gateways) and the cloud, along with the challenges for security, privacy and the integration with the Web of data.

WoT workshop report:

<http://www.w3.org/2014/02/wot/report.html>

Compose EU project: <http://www.compose-project.eu/>

Workshop on Privacy and User-Centric controls

Hosted by Deutsche Telekom and supported by the Strews and Practice EU projects, this November 2014 privacy workshop attracted extensive participation from diverse stakeholders including browser vendors, researchers, network operators, entrepreneurs, and government representatives. Presentations and discussions were about warnings on how privacy concerns might become even more serious with eye tracking, insights on the future of mobile privacy, views on why the current explanations to users are inadequate, and insights on user interfaces and user management of privacy settings. There were also presentations highlighting the possible need for major changes to the internet, offering a rationale and new architectural view, as well as new approaches.

Privacy workshop report:

<http://www.w3.org/2014/privacyws/report.html>

Strews EU project: <http://www.strews.eu/>

W3C launched Web payments initiative

W3C is aiming to streamline Web Payments with new standards that will provide a uniform way for merchants to integrate payments into the Web with a level playing field for payment service providers and value added services. The HTML5Apps EU project initiated this work in March 2014 by organizing the Web Payments Workshop at the “Bourse de Paris” (hosted by Ingenico) to discuss requirements related to usability, security, mobile payments, digital wallets, ubiquitous payments, the Internet of Things, and more. A W3C Web Payment Interest Group was formed in October 2014, which goal is to leverage the unique ability of the Web to bridge ecosystem diversity and reach users everywhere, on any device. The result will be new business opportunities, an improved user experience for online transactions, reduced fraud, and increased interoperability among traditional solutions and future payment innovations.

W3C Web payments: <http://www.w3.org/Payments/>

Web payments workshop report:

http://www.w3.org/2013/10/payments/final_report.html

HTML5Apps EU project: <http://html5apps-project.eu/>

HTML



HTML5 became a W3C Web standard

W3C published a Recommendation of HTML5, the fifth major revision of the format used to build Web pages and applications, and the cornerstone of the Open Web Platform. For application developers and industry, HTML5 represents a set of features that people will be able to rely on for years to come. HTML5 is now supported on a wide variety of devices, lowering the cost of cre-

ating rich applications to reach users everywhere. HTML5 brings to the Web video and audio tracks without needing plug-ins; programmatic access to a resolution-dependent bitmap canvas, which is useful for rendering graphs, game graphics, or other visual images on the fly; native support for scalable vector graphics (SVG) and math (MathML); annotations important for East Asian typography (Ruby); features to enable accessibility of rich applications; and much more.

W3C HTML5 Recommendation: <http://www.w3.org/TR/html5/>



Web@25 and W3C@20

In March 2014, the world celebrated 25 years of the Web. First proposed in March 1989, the Web has transformed the way the world communicates, creates and collaborates. Over two in five of the world’s population are now connected, often bridging geographical and social divides. Each minute, they send each other hundreds of millions of messages, share 20 million photos, and exchange at least \$15m worth of goods and services. The success of the Web can be traced to its original design as a decentralised system and an open architecture anyone could help to build. However, the open Web’s true potential as a tool for empowering everyone has yet to be realised, and could dwindle if key challenges are not solved. “If we want a Web that is truly for everyone, then everyone must play a role in shaping its next 25 years,” concluded Berners-Lee.

In October 1994, Tim Berners-Lee created the World Wide Web Consortium (W3C) to lead the Web to its full potential. To mark the anniversary, W3C invited the Web community to a W3C20 Anniversary Symposium, in Santa Clara, CA. Twenty years ago, the Web was just taking off, and a small group of people launched the World Web Consortium, a big name for an even bigger project. Today, thousands of people around the world, from many industries, make up the W3C community. The Web we are building everyday is incredibly innovative, and by creating more ways for people to share their ideas for the Web, we are helping to ensure the future Web serves all of us well, whilst protecting personal data and preserve individual liberties.

Web@25: <http://www.webat25.org/>

W3C@20: <http://www.w3.org/20/>

After having successfully grown to become the most recognized ICST Society in Europe, acting as a hub to national ICST research via a national representative member, ERCIM has in 2011 opened membership to allow multiple members per country. Following requests during the last years, it is now possible for excellent research institutions in ICST per country to become members of ERCIM.

A member institute must be a leading research establishment in its country with excellent links to both its national and the international research communities. All ERCIM members are national centres of excellence and independent of specific commercial ties. They have a strong involvement in the research programmes of the European Union and joint projects with both small and medium-sized enterprises and large industrial companies.

Institutions member of ERCIM end of 2014:



Consiglio Nazionale delle Ricerche
Area della Ricerca CNR di Pisa
Via G. Moruzzi 1, 56124 Pisa, Italy
<http://www.iit.cnr.it/>



Czech Research Consortium
for Informatics and Mathematics
FI MU, Botanicka 68a, CZ-602 00 Brno, Czech Republic
<http://www.utia.cas.cz/CRCIM/home.html>



Centrum Wiskunde & Informatica

Centrum Wiskunde & Informatica
Science Park 123,
NL-1098 XG Amsterdam, The Netherlands
<http://www.cwi.nl/>



Fonds National de la
Recherche Luxembourg

Fonds National de la Recherche
6, rue Antoine de Saint-Expéry, B.P. 1777
L-1017 Luxembourg-Kirchberg
<http://www.fnrl.lu/>



FWO
Egmontstraat 5
B-1000 Brussels, Belgium
<http://www.fwo.be/>

F.R.S.-FNRS
rue d'Egmont 5
B-1000 Brussels, Belgium
<http://www.fnrs.be/>



Foundation for Research and Technology - Hellas
Institute of Computer Science
P.O. Box 1385, GR-71110 Heraklion, Crete, Greece
<http://www.ics.forth.gr/>



Fraunhofer ICT Group
Anna-Louisa-Karsch-Str. 2
10178 Berlin, Germany
<http://www.iuk.fraunhofer.de/>



INESC
c/o INESC Porto, Campus da FEUP,
Rua Dr. Roberto Frias, nº 378,
4200-465 Porto, Portugal



Institut National de Recherche en Informatique
et en Automatique
B.P. 105, F-78153 Le Chesnay, France
<http://www.inria.fr/>



I.S.I. - Industrial Systems Institute
Patras Science Park building
Platani, Patras, Greece, GR-26504
<http://www.isi.gr/>



Norwegian University of Science and Technology
Faculty of Information Technology, Mathematics and
Electrical Engineering, N 7491 Trondheim, Norway
<http://www.ntnu.no/>



SBA Research gGmbH
Favoritenstraße 16, 1040 Wien
<http://www.sba-research.org>



SICS Swedish ICT
Box 1263,
SE-164 29 Kista, Sweden
<http://www.sics.se/>



Spanish Research Consortium for Informatics and Mathematics
D3301, Facultad de Informática, Universidad Politécnica de Madrid
28660 Boadilla del Monte, Madrid, Spain,
<http://www.sparcim.es/>



Science & Technology
Facilities Council

Science and Technology Facilities Council
Rutherford Appleton Laboratory
Chilton, Didcot, Oxfordshire OX11 0QX, United Kingdom
<http://www.scitech.ac.uk/>



Magyar Tudományos Akadémia
Számítástechnikai és Automatizálási Kutató Intézet
P.O. Box 63, H-1518 Budapest, Hungary
<http://www.sztaki.hu/>



University of Cyprus
P.O. Box 20537
1678 Nicosia, Cyprus
<http://www.cs.ucy.ac.cy/>



University of Geneva
Centre Universitaire d'Informatique
Battelle Bat. A, 7 rte de Drize, CH-1227 Carouge
<http://cui.unige.ch>



University of Southampton
University Road
Southampton SO17 1BJ, United Kingdom
<http://www.southampton.ac.uk/>



University of Warsaw
Faculty of Mathematics, Informatics and Mechanics
Banacha 2, 02-097 Warsaw, Poland
<http://www.mimuw.edu.pl/>



University of Wrocław
Institute of Computer Science
Joliot-Curie 15, 50-383 Wrocław, Poland
<http://www.ii.uni.wroc.pl/>



VTT Technical Research Centre of Finland Ltd
PO Box 1000
FIN-02044 VTT, Finland
<http://www.vttresearch.com>



2004, Route des Lucioles
Sophia Antipolis
06410 Biot
France

Tel: +33 4 9238 5010
Fax: +33 4 9238 5011
contact@ercim.eu
<http://www.ercim.eu>
@ercim_news
<http://www.linkedin.com/groups/ERCIM-81390>

