

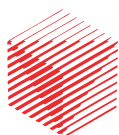
ERCIM

European Research Consortium
for Informatics and Mathematics

Cooperating for Excellence in Research

Activity Report 2018

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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 2018, the members of ERCIM included 16 leading research establishments from 14 European countries. Encompassing about 10 000 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, focuses on information and communication science and technology (ICST) and related areas of mathematics. ERCIM has a successful track record of promoting ICST research and cooperation in Europe and beyond. Membership is open to top level research institutions (including universities) in ICST.

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.

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 Informatics Europe, ETSI, the European Telecommunications Standards Institute and with the European Mathematical Society.

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.

Members

Member institutes are 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. Members can benefit from:

- International recognition as a leading centre for ICT R&D. ERCIM, a European-wide network of centres of excellence in ICT, is internationally recognised as a major representative organisation in its field;
- More influence on European and national government R&D strategy in ICT. ERCIM members team up to speak with a common voice and produce strategic reports to shape the European research agenda;
- Privileged access to standardisation bodies, such as the W3C which is hosted by ERCIM as to other bodies with which ERCIM has also established strategic cooperation. These include ETSI, the European Mathematical Society and Informatics Europe;
- Invitations to join projects of strategic importance;
- Establishing personal contacts among executives of leading European research institutes during the bi-annual ERCIM meetings;
- Invitations to join committees and boards developing ICT strategy nationally and internationally;
- Excellent networking possibilities with more than 10.000 high-quality research colleagues across Europe. ERCIM's mobility activities, such as the fellowship programme, leverages scientific cooperation and excellence;
- Professional development of staff including international recognition;
- Publicity through the ERCIM website and ERCIM News, the widely read quarterly magazine.

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 2018, the board was composed of:

- Jos Baeten, CWI, The Netherlands: 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, Science Task Group chair
- Claude Kirchner, Inria, France, Human Capital Task Group chair
- Andreas Rauber, SBA Research, Austria, Outreach Task Group chair

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 2018 the board was composed of:

- Antoine Petit, Inria (president ERCIM EEIG)
- Dieter Fellner, Fraunhofer-Gesellschaft
- Domenico Laforenza, CNR
- Dimitris Plexousakis, ICS-FORTH

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

- Alexander Nouak, Fraunhofer Gesellschaft (chair)
- Thierry Priol, Inria
- Thanassis Mouchtaris, FORTH
- Fausto Rabitti, CNR.

Jos Baeten, ERCIM President

Throughout 2018 ERCIM traded as a consortium consisting of ERCIM EEIG and ERCIM AISBL. ERCIM operated with a gross turnover of 4.3 M€.

ERCIM AISBL	
Receipts	137,527 €
ERCIM Office	
Receipts	927,199 € (including 547,599€ from EU contracts)
Total received by the EU	551,520 €
<i>Total Office turnover</i>	931,120 €
W3C Europe	
Receipts	3.223,666 € (including 450,341€ from EU contracts)
Total received by the EU	440,523 €
<i>Total W3C Turnover</i>	3.213,848 €
Total turnover	4.282,495 €

Science Coordination

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 subtasks:

- Working Groups for building and maintaining a strong network of ERCIM researchers in the different scientific fields of competence of ERCIM.
- Expert Groups which are established on the initiative of ERCIM board to investigate current topics for a limited period with the aim to produce strategic papers or to coordinate relevant activities of common interest.
- 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 2018 included:

Chair:

- Dimitris Plexousakis, FORTH

Members:

- Stéphane Bordas, Univ. of Luxembourg (FNO)
- Gabriel David, INESC
- Christos Koulamas, Inria
- Björn Levin, RISE SICS
- Eric Peeters, TNO
- Fausto Rabitti, CNR
- Edgar Weippl, SBA.

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



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

Blockchain Technology

The objective of the Working Group Blockchain Technology is to study the potential of this technology for a range of application fields in industry and public administration. It has become evident that blockchain technology is being investigated in various areas of computer science research. That includes peer-to-peer networks, distributed systems, cryptography, algorithms for consensus building and validation as well as for modeling processes and business models. In addition to these basic technologies, the Working Group will also study applications in relevant fields like Internet-of-Things, supply chains, energy and Smart Grid, the media, the medical field and the financial industry.

ERCIM Workshop on Blockchain Engineering: Papers, Research Questions and Interests

The ERCIM blockchain Working Group organised a workshop in Amsterdam on 8-9 June in conjunction with the ERCIM spring meetings. The purpose of this workshop was to look at what the general excitement about blockchain technologies means for computer science research and to identify the major research challenges in this area. Ten papers covering basic technologies, applications and methods have been selected for presentation. The papers are available in the EUSSET Digital Library [L2].

More than 40 participants from different research organisations and universities participated in the workshop. In discussions after the paper presentations and during a discussion session we have identified the following research questions:

Design, Privacy and Applications

- How can we combine development frameworks with design thinking?
- How can the (newly established) certification processes of the GDPR be used to implement compliant applications in the market?
- How to protect privacy per se and without creating an overhead?
- How to select application-specific parameters for platform selection and design?
- How can we include social science & economist in the community to discuss trust?
- How to build governance & business models for Blockchain?

Technology and Development

- What is a Reference Architecture for Blockchain?
- How can we create a general framework for Blockchain development?
- How do we manage multiple Blockchains and Cross Blockchain Applications?
- What are Atomic operations across multiple blockchains?
- How can we realize the desirable properties of blockchain in other settings?

Some of these aspects can also be found in the first research agenda on blockchain by the Dutch Blockchain Coalition that was presented to Rob van Gijzel, who is ambassador of the Dutch Blockchain Coalition by Prof. dr. J.C. van de Pol.

Coordinator:

Wolfgang Prinz, Fraunhofer FIT

<https://wiki.ercim.eu/wg/BlockchainTechnology/>

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.

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

Working Groups with activities in 2018

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



Prof. dr. J.C. van de Pol (left) presents the first research agenda on blockchain by the Dutch Blockchain Coalition to the coalitions' ambassador Rob van Gijzel. Source: Roy Borghouts Fotografie.

Computational and Methodological Statistics

The Working Group Computing and Statistics focuses on all computational and methodological aspects of statistics. Of particular interest is research in important statistical applications areas where both computational and/or methodological aspects have a major impact. The aim is threefold: first, to consolidate the research in computational and methodological statistics that is scattered throughout Europe; second to provide researchers with a network from which they can obtain an unrivalled sources of information about the most recent developments in computational and methodological statistics as well as its applications; third to edit quality publications of high impact and significance in the broad interface of computing, methodological statistics and its applications.

Coordinator:

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

Co-organised event:

- 11th International Conference of the ERCIM WG on Computational and Methodological Statistics, University of Pisa, Italy, 14-16 December 2018. The conference was held in conjunction with the 12th International Conference on Computational and Financial Econometrics (CFE 2018).

<http://www.cmstatistics.org/CMStatistics2015/>

Dependable Software-Intensive Embedded Systems

In 2018 the ERCIM Working Group Dependable Embedded Software (DES) co-organised and co-hosted workshops and special sessions at a number of renowned conferences, including the SAFECOMP conference in Västerås (Sweden).

Coordinator:

Erwin Schoitsch, Austrian Institute of Technology/SBA

Co-organised events:

- ERCIM/EWICS/ARTEMIS DECSoS Workshop “Dependable Embedded Smart Cyberphysical Systems and Systems of Systems”, 18 September 2018, Västerås, Sweden, as part of SafeComp 2018 (<https://kwz.me/hyq>)

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:

Jaco van de Pol, Aarhus University, Denmark

Co-organised event:

FMICS 2018 - 23rd International Conference on Formal Methods for Industrial Critical Systems, 3-4 September 2018, Maynooth University, Ireland.

FMICS 2018 <http://fmics2018.fi.muni.cz/>

FMICS Working Group: <http://fmics.inria.fr/>

MUSCLE - Multimedia Understanding through Semantics Computation and Learning

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:

Davide Moroni, ISTI-CNR

Organised event:

6th International Workshop on Computational Intelligence for Multimedia Understanding - Wrocław, Poland, September 12-14, 2018.

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

Projects

In 2018, ERCIM participated in nine research projects funded by the European Commission either as coordinator or as a partner, as well as in one national French research project.

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 90 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:

Peter Kunz, ERCIM Office

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Project acronym	Project Type	ERCIM's role	ERCIM members involved
BlueBridge	EU H2020 Research and Innovation Action	administrative support	ISTI-CNR, FORTH, ERCIM EEIG
Boost 4.0	EU H2020 Innovation Action	partner	ERCIM EEIG/W3C
CREATE-IoT	EU H2020 Coordination and support action	partner	ERCIM EEIG/W3C
Easy Reading	EU H2020 Research and Innovation Action	partner	ERCIM EEIG/W3C
GEOLYTICS	French national projects	partner	ERCIM EEIG/W3C
HRADIO	EU H2020 Innovation Action	partner	ERCIM EEIG/W3C
SPECIAL	EU H2020 Research and Innovation Action	coordinator	ERCIM EEIG/W3C
VRE4EIC	EU H2020 Research and Innovation Action	coordinator	CWI, CNR, FORTH, ERCIM EEIG
WAI-Tools	EU H2020 Innovation Action	coordinator	ERCIM EEIG/W3C



BlueBRIDGE

BlueBRIDGE is a European initiative funded under the H2020 framework to further develop and exploit the iMarine e-Infrastructure data services for an ecosystems approach to fisheries.

“Supporting Blue Growth with innovative applications based on EU e-infrastructures” was the motto of the final event of the BlueBRIDGE project, held on 14-15 February 2018 with participation of over 50 stakeholders, including policy makers, marine and maritime data practitioners, representatives from research institutions, international organisations, governments and EU-funded initiatives. Blue Growth is the long-term strategy to support sustainable growth in the marine and maritime sectors as a whole. At the same time, Blue Growth has significant data needs that are only partially met. The BlueBRIDGE H2020 project that began in 2015 has worked hard to address these data gaps by developing innovative solutions in the form of Virtual Research Environments (VREs).



Final event of the BlueBRIDGE project, held on 14-15 February 2018 in Brussels.

How does BlueBRIDGE support Blue Growth? Is there a concrete demand for global repositories of merged public data?

The main mission of BlueBRIDGE is the exploitation of data e-infrastructures to facilitate communities of scientists, data practitioners, SME innovators and educators from various domains to address Blue Growth challenges related to the knowledge production chain. The major barriers that these communities currently encounter are related to i) the difficulty of accessing heterogeneous data that are spread through multiple remote sources and ii) the complexity of the technologies available to process these data. The barriers make a data-centred research process quite slow, if not impossible to pursue.

The solutions developed by BlueBRIDGE aim at removing these barriers. BlueBRIDGE is serving the Blue Growth sector by having developed a set of Virtual Research Environments (VREs), collaborative applications that data managers and policy makers can use to access and analyse data in an easy way. All of the BlueBRIDGE VREs rely on a European hybrid data e-infrastructure, D4Science (www.d4science.org).

The BlueBRIDGE Services at a glance

Facilities offered by BlueBRIDGE include services that render the usage of computing resources transparent for the end user, from data production and representation to the discovery of and generation of complex data products. The underlying BlueBRIDGE infrastructure automatically collects information on the processes performed, facilitating the repeatability and reproducibility of experiments and the reuse of results. These features were particularly important in recent studies conducted to estimate the spread of the pufferfish in the Mediterranean Sea, and to develop a general purpose approach which can also be applied to other species, as well as in the climate change area.

BlueBridge - Building Research environments for fostering Innovation, Decision making, Governance and Education to support Blue growth

EU funding: €5,295,753

ERCIM's role:

ERCIM EEIG provides administrative and financial support

ERCIM members involved:

CNR, FORTH

Scientific coordination:

Donatella Castelli, ISTI-CNR

Duration:

September 2015 - February 2018

<http://www.bluebridge-vres.eu/>

BOOST 4.0

Boost 4.0 is the biggest European initiative in Big Data for Industry 4.0. With a 20M€ budget and leveraging 100M€ of private investment. Boost 4.0 will lead the construction of the European Industrial Data Space to improve the competitiveness of Industry 4.0 and will guide the European manufacturing industry in the introduction of Big Data in the factory, providing the industrial sector with the necessary tools to obtain the maximum benefit of Big Data.

Within the project, ERCIM/W3C is responsible for tasks related to data governance and data protection, standardisation and certification. ERCIM/W3C is also involved in work on semantic models, vocabularies and registries.

Overall Project Objectives:

Global Standards:

Contribution to the international standardization of European Industrial Data Space data models and open interfaces aligned with the European Reference Architectural Model Industry 4.0 (RAMI 4.0)

Secure Digital Infrastructures:

Adaptation and extension of cloud and edge digital infrastructures to ensure high performance operation of the European Industrial Data Space; i.e, support of high-speed processing and analysis of huge and very heterogeneous industrial data sources.

Trusted Big Data Middleware:

Integration of the four main open source European initiatives (Industrial Data Space, FIWARE, Hyperledger, Big Data Europe) to support the development of open connectors and big data middleware with native blockchain support in the European Industrial Data Space.

Digital Manufacturing Platforms:

Open interfaces for the development of big data pipelines for advanced analysis services and data visualization supported by the main digital engineering, simulation, operations and industrial quality control platforms.

Certification:

European certification program of equipment, infrastructures, platforms and big data services for their operation in the European Industrial Data Space.

In 2018, BOOST 4.0 has contributed to the NIST QIF, NIST IOF, IEC Smart Factory, IEC AutomationML and ETSI CIM Working group. Initial plans for the creation of a business group at W3C are being set for coordination with other major initiatives on Industry 4.0 vocabulary development and smart factory information framework developments.



BOOST 4.0 - Big Data Value Spaces for Competitiveness of European COnnected Smart FacTories 4.0

EU funding: € 14 983 516

ERCIM's role:

ERCIM EEIG project partner

ERCIM/W3C contact:

Philipp Hoschka, Dave Raggett, W3C

ERCIM members involved:

Fraunhofer-Gesellschaft, ERCIM/W3C

Coordinator: Innovalia

Duration:

January 2018 to December 2020

<https://boost40.eu/>



CREATE-IoT

DCREATE-IoT's aim is to stimulate collaboration between IoT initiatives, foster the take up of IoT in Europe and support the development and growth of IoT ecosystems based on open technologies and platforms. This requires synchronisation and alignment on strategic and operational terms through frequent, multi-directional exchanges between the various activities under the IoT Focus Areas (FAs). It also requires cross fertilisation of the various IoT Large Scale Pilots (LSPs) for technological and validation issues of common interest across the various application domains and use cases. CREATE-IoT will align the activities with the Alliance for Internet of Things Innovation (AIOTI) and will coordinate and support the upcoming LSPs in sustaining the ecosystems developed during those projects through mapping the pilot architecture approaches, address interoperability and standards approaches at technical and semantic levels for object connectivity, protocols, data formats, privacy, security, trusted IoT, open APIs and share the road-mapping with international initiatives.

The project will foster the exchange on requirements for legal accompanying measures, development of common methodologies and KPI for design, testing and validation and for success and impact measurement, federation of pilot activities and transfer to other pilot areas, facilitating the access for IoT entrepreneurs/API developers/makers, SMEs, including combination of ICT & Art.

Create-IoT - Cross Fertilisation through alignment, synchronisation and exchanges for IoT

EU funding: € 2.999,999

ERCIM's role:
ERCIM EEIG project partner

ERCIM/W3C contact:
Philipp Hoschka, Dave Raggett, W3C

ERCIM members involved:
ERCIM/W3C

Coordinator: SINTEF

Duration:
January 2017 – December 2019

<https://european-iot-pilots.eu/create-iot>



Easy Reading

The “Easy Reading” framework will improve the cognitive accessibility of original digital documents by providing real time personalisation through annotation (using e.g. symbol, pictures, videos), adaptation (using e.g. layout, structure) and translation (using e.g. Easy-to-Read, Plain Language, symbol writing systems). The framework provides these (semi-)automated services using HCI techniques (e.g. pop-ups/Text-To-Speech (TTS)/captions through mouse-over or eye-tracking) allowing the user to remain and work within the original digital document. This fosters independent access and keeps the user in the inclusive discourse about the original content. Services adapt to each user through a personal profile (sensor based tracking and reasoning of e.g. the level of performance, understanding, preferences, mood, attention, context and the individual learning curve).

ERCIM/W3C staff will provide technical guidance and clarification on the W3C standards and resources relevant to the project. This includes accessibility standards, with particular emphasis on current developments of accessibility for people with cognitive accessibility.

Easy Reading - A Framework for Personalised Cognitive Accessibility when using Original Digital Content

EU funding: € 1 992 063

ERCIM's role:

ERCIM EEIG project partner

ERCIM/W3C contact:

Shadi Abou-Zahra, W3C

ERCIM members involved:

ERCIM/W3C

Coordinator:

University Linz

Duration:

January 2018 – June 2020

<https://www.easyreading.eu>



GEOLYTICS

GEOLYTICS is a platform of analysis and forecast of the needs for displacements multimode on the whole of the territory. It will exploit the data of geolocation of the operators (mobile operators, GPS operators). The objective is to become the platform of reference on the French market then to give him an international potential.

Like GoogleAnalytics for the Web, it will allow the companies to identify the local potential related to the practices of displacements: zone of real attractivity of a trade, transport demand or of traffic (pedestrian, road, air, railway, etc.).

It falls under the Big plan Dated from New industrial France on the sets of themes of the control of new quantities of data (hundreds of million per day), of the development of advanced algorithms placed at the disposal of carrier sectors (transport, tourism, distribution).

The comprehension of the behaviors of the consumers, the citizens with a dynamic vision and “real time” is the challenge of Geolytics. It fits initially in the market of studies (2.7Md in France, 3.4Md in Germany and the U.K., 34Md with total).

The primary markets all are of the sectors in full change (smart city, saturation of transport in Ile de France). Geolytics will allow them:

- To evaluate the interest to create new lines of transport
- To improve the plan of displacements in an urban area, a department
- To define a marketing adapted to the practices of frequentation
- To calculate the local market share of current or potential storage areas.

It is this vision, centered on the customer, that Geolytics will allow by reducing the time of decision making and will thus reach very short returns on investment (< 6 months).

GEOLYTICS - Multi-source Real-Time and Predictive Passenger Data Data Platform

Funding: € 321,000 (for ERCIM/W3C)

ERCIM's role:
ERCIM EEIG project partner

ERCIM/W3C contact:
François Daoust, Philipp Hoschka (W3C)

ERCIM members involved:
ERCIM/W3C

Scientific coordination:
IT4PM

Duration:
July 2017 - July 2019

<https://www.pole-scs.org/en/projects/geolytics/>

HRADIO

HRADIO (Hybrid Radio everywhere for everyone) focuses on radio service innovations enabled by convergence. While radio, with its rich editorial content, remains a highly popular medium, listening figures are slowly declining, particularly among youngsters. With the rapid rise of smartphones, radio faces competition from many new services including music streaming platforms. Regular radio today often does not include attractive features as known from vertical platforms. And if present, they are mostly not well integrated with the actual radio programme. This is where HRADIO will deliver.

Driven by the industry need to create attractive new radio experiences, the project will leverage the full potential of hybrid technology for radio – enabling the integration of cost-effective broadcast distribution with new online features. Broadcasters will be enabled to personalise radio services (while respecting privacy), to provide intuitive functionalities like time-shifting and, eventually, to foster and to exploit user engagement. HRADIO will pave the way to bring these features not only to broadcasters' native mobile applications, but also to portals, to connected radios and into the car. The core approach is to integrate validated solutions and to harmonise APIs which together will provide broadcasters with an abstracted service layer accessible across any device and distribution platform – ensuring sustainability and return of investment. Therefore, consumers will be able to access their personal radio services on different devices and platforms enabled by a seamless broadcast-internet integration for radio content distribution. All features will be tested in 3 phases of large-scale pilots involving broadcasters, app developers for mobile and automotive devices.

ERCIM/W3C leads the standardisation activities of the project, working with partners to align modelling and technical tasks with ongoing standardisation activities, and to identify and specify possible extensions to standards beneficial for the project. As such, ERCIM/W3C contributes to the definition of scenarios and requirements, the system architecture and specifications.

Eventually, HRADIO will publish its developments as ready-to-use Android and HTML client implementations including an extensive set of well documented APIs fostering new service developments for the radio sector.

HRADIO)))



HRADIO - Hybrid Radio everywhere for everyone

EC Funding: € 2.953,371

ERCIM's role:
Project partner

ERCIM/W3C contact:
ERCIM/W3C

Scientific coordination:
Christine van Houtven, IMEC

ERCIM/W3C contact:
François Daoust, Dominique Hazael-Massieux, Philipp Hoschka, W3C

Duration:
September 2017 - February 2020

<https://www.hradiio.eu/projects/>



SPECIAL workshop on data privacy controls and vocabularies on 17-18 April 2018.

SPECIAL

The SPECIAL project addresses the conflict between Big Data innovation and data protection requirements of the GDPR through technical solutions making the achievement of both of these goals realistic. They allow citizens and organisations to share more data, while supporting data protection and transparency. The team develops technology that

- supports the acquisition of user consent at collection time and the recording of both data and metadata (consent policies, event data, context) according to legal and user-specified policies;
- facilitates privacy-aware, secure workflows with usage/access control and auditability to enhance transparency and compliance verification;
- demonstrates robustness in terms of performance, scalability and security;
- provides a dashboard with feedback and control features that makes data collection and processing comprehensible and manageable for data subjects, controllers, and processors alike.

SPECIAL's vision is to reconcile Big Data and personal data protection via an innovative data handling solution and a transparency framework. The project develops this technology to ease industry's difficulties with GDPR compliance and to enable respectful treatment of personal information. This introduces new ways of user interaction on data protection, fostering trusted customer relationships. Thus, the project team

- builds a big data architecture to handle linked data for privacy policies, as well as deploy scalable, queryable encryption
- develops advanced user (data subject) inter-action and control features
- integrates the results of the Big Data Europe and the PrimeLife projects, while advancing the state of the art of privacy-enhancing technologies
- includes ethical principles, EU General Data Protection Regulation (GDPR) requirements, and consider a future ePrivacy Regulation

In April 2018, besides the research activity and the development of use cases, SPECIAL organized the Workshop on "Data Privacy Controls and Vocabularies" jointly organized with W3C and hosted by the Vienna University of Economics and Business. In 2018, the project team was present in a number of events: ISWC2018, MyData 2018, OPERANDI 2018 workshop, ECoSP 2018, FIFKon 2018, EBDVF18. In the same year, the SPECIAL team also developed the architecture video of the project to show schematically the components of the SPECIAL system, some of the semantic data that describes privacy-related events (the event log), a sample mobile user interface that asks for consent and a transparency dashboard that shows a user what's happening with his data. All members of SPECIAL worked and cooperated so closely in 2018 for the preparation of the new SPECIAL Platform that was released in April 2019.

SPECIAL - Scalable Policy-aware linked data architecture for privacy, transparency and compliance

EC funding: €3 991,389

ERCIM's role:

ERCIM EEIG project coordinator

ERCIM members involved:

ERCIM/W3C

Scientific coordination:

Sabrina Kirrane, WU Wien

Administrative coordination:

Jessica Michel Assoumou, ERCIM Office

Duration:

January 2017 – December 2019

<https://www.specialprivacy.eu/>

VRE4EIC

VRE4EIC (A Europe-wide Interoperable Virtual Research Environment to Empower Multidisciplinary Research Communities and Accelerate Innovation and Collaboration) has successfully developed a reference architecture and software prototypes called eVRE, designed to build or enhance e-Research Infrastructures (e-RIs).

e-VRE provides a comfortable, homogeneous interface for researchers and developers by virtualising access to the heterogeneous datasets, software services and resources of e-RIs. On top of this, it also supports collaboration and communication between users/researchers. The e-VRE source code is available on GitHub.

The potential of e-VRE is demonstrated by the European Plate Observing System (EPOS) and ENVRI+, a Horizon 2020 project bringing together Environmental and Earth System Research Infrastructures, projects and networks. Both EPOS and ENVRI+ are represented in the project, themselves supported by e-Infrastructures such as GEANT, EUDAT, PRACE, EGI, OpenAIRE.

VRE4EIC provides a superset canonical rich catalog into which information from the distributed heterogeneous e-RI catalogs is imported via converters. It thus provides a homogeneous view over the heterogeneous metadata describing the assets and thus automates findability and accessibility. Access to the catalog is offered via the Metadata Manager component of the reference architecture, encapsulating all operations on the descriptions held in the catalog. The Metadata Manager was included in the architecture of EPOS, enhancing EPOS' interoperability level.

The current state of the art has some interoperability and re-use among research assets but this is usually restricted to a particular domain where local metadata standards are utilised. However, the interoperation usually requires considerable human effort and rarely is (even partially) automated. The VRE4EIC catalog allows homogeneous access across the heterogeneous metadata provided, and thus—progressively—interoperability and re-usability.

Building or enhancing a VRE is a complex procedure. The project has produced a series of video tutorials about VREs in general, and the VRE4EIC reference architecture and component services in particular to help researchers and technicians understanding the principles and aspects of eVRE. The tutorials are available via the project web site.

VRE4EIC website: <https://www.vre4eic.eu/>
 VRE4EIC tutorials: <https://www.vre4eic.eu/tutorials>
 eVRE on GitHub: <https://github.com/vre4eic>



VRE4EIC - A Europe-wide Interoperable Virtual Research Environment to Empower Multidisciplinary Research Communities and Accelerate Innovation and Collaboration

EC Funding: € 4.400,000

ERCIM's role:
Project coordinator

ERCIM members involved:
CWI, CNR, FORTH

Scientific coordination:
Keith Jeffery, ERCIM Office

Administrative coordination:
Peter Kunz, ERCIM Office

Duration:
September 2015 - September 2018

<http://www.vre4eic.eu/>



WAI-Tools Open meeting in Brussels, November 2017.

WAI-TOOLS

WAI-Tools, Advanced Decision Support Tools for Scalable Web Accessibility Assessments, drives innovation with sustainable impact on the entire field of web accessibility evaluation and repair through:

- Building on the on-going international standardisation efforts on web accessibility conformance testing;
- Ensuring consistent accuracy across automated, semi-automated, and manual web accessibility testing;
- Pursuing leading edge technologies for website testing, including dynamic and mobile web applications;
- Leveraging the existing market of commercial, free, and open source web accessibility evaluation tools;
- Demonstrating large-scale web accessibility monitoring built on open standards and open source tools.

WAI-Tools achieves this by carrying out key efforts in the vendor-neutral environment of the World Wide Web Consortium (W3C). WAI-Tools draws together key expertise from industry, public bodies, and research to develop common understanding of web accessibility requirements in exchange with the existing community and networks of the W3C Web Accessibility Initiative (WAI).

WAI-Tools is uniquely positioned and qualified to develop authoritative resources that are coordinated and aligned with the on-going European and international efforts on web accessibility standardisation, including W3C Web Content Accessibility Guidelines (WCAG) 2.1, the expected revision of EN 301 549, and upcoming EC definition of mobile requirements and monitoring methodology in light of the EU Directive on web accessibility.

WAI-Tools maximises the impacts while minimising the use of project resources by building on existing open source tools from leading market vendors, rather than investing in teething troubles of less mature tools. WAI-Tools deploys testing tools in existing web accessibility monitoring observatories and integrates these differing national approaches using open data, to demonstrate easier and more cost effective assessment of web accessibility requirements at scale.

WAI-TOOLS - Advanced Decision Support Tools for Scalable Web Accessibility Assessments

EC funding: € 1 999,812

ERCIM's role:
Project coordinator

ERCIM members involved:
ERCIM/W3C

Scientific coordination:
Shadi Abou-Zahra, W3C

Administrative coordination:
Jessica Michel Assoumou, ERCIM Office

Duration:
November 2017 – October 2020

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

Human Capital

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-doctoral fellowship programme that has been in existence since 1994. 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 key activity is the Cor Baayen Young Researcher 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 2018 the group was composed of:

- Harald Lenschow, NTNU
- Claude Kirchner, Inria (chair)
- Adriana Lazzaroni, CNR
- Emma Lière, ERCIM Office
- Laszlo Monostori, SZTAKI
- Jerzy Tiuryn, University of Warsaw
- Bettina Touré, Fraunhofer
- 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 500 fellows have passed through the programme. In 2018, 30 young scientists commenced an ERCIM PhD Fellowship and 56 fellows have been hosted during the year. This represents 349 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 2018, 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 (with a possible extension), spent in one of the ERCIM member institute. Fellows can apply for second year in a different institute.

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://fellowship.ercim.eu>

“ It was a holistic experience, and the realization of the experience and knowledge I gained only grows each time I look back on it. ERCIM fellowship is a unique opportunity that needs to be grasped, that shapes your future and can give you experiences that will inspire you for many years.



Naveed Anwar BHATTI
Former ERCIM Fellow

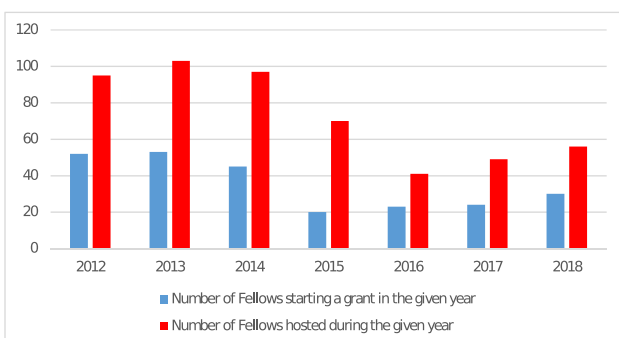
“ The ERCIM Postdoc was a great opportunity! I moved to another country, I met new people and I worked in machine learning applied to industry. This definitely changed my career. Thanks a lot!



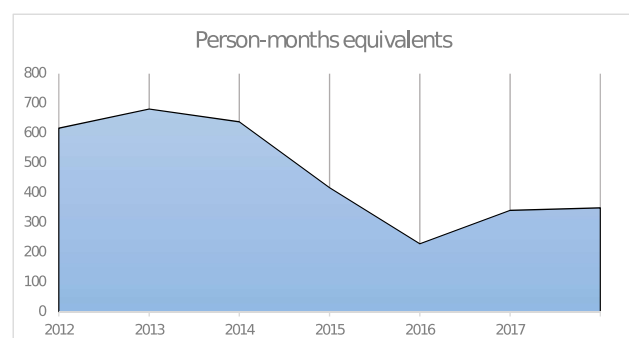
Rita Duarte PIMENTEL
Former ERCIM Fellow

ERCIM Fellows hosted in 2018

- Adnan Akhuzada Adnan at RISE SICS AB
- Mahdi Amani at NTNU
- Noe Barrera Gallegos at NTNU
- Naveed Bhatti at RISE SICS AB
- Steffen Bondorf at NTNU
- Amyr Borges Fortes Neto at UCY
- Rachael Boyd at NTNU
- Maximiliano Bueno at NTNU
- Bijoy chand Chatterjee at NTNU
- Indranil Chowdhury at NTNU
- Rob Comber at RISE SICS AB
- Thu Lan Dam at NTNU
- Naveen Kumar Dasanadoddi Venkategowda at NTNU
- Henri Der Sarkissian at CWI
- Raj Narayan Dhara at NTNU
- Youcef Djenouri at NTNU
- Naveed Ejaz at Fraunhofer Gesellschaft
- Ahmed Elaraby at NTNU
- Noha El-Ganainy at NTNU
- Beatriz Galindo Prieto at NTNU
- Joseph Garrett at RISE SICS AB
- Konstantina-Stavroula Giannopoulou at NTNU
- Javier Gómez Escribano at NTNU
- Muhammad Hanif at CNR
- Jia-chen Hua at NTNU
- Mudassar Aslam Jadoon at NTNU
- Mads Sielemann Jakobsen at NTNU
- Pushpendu Kar at NTNU
- Jalal Khodaparast Ghadikolaei at NTNU
- Marinos Koutsomichalis at NTNU
- Timur Luguev at Fraunhofer Gesellschaft
- Silverio Juan Martinez Fernandez at Fraunhofer Gesellschaft
- Luis Alberto Martinez Vaquero at CNR
- Fereshteh Mirjalili at NTNU
- Amir Mosavi at NTNU
- Dag Nilsson at NTNU
- Kalia Orphanou at CWI
- Michael Osadebey at NTNU
- Dmitrii Ostrovskii at INRIA
- Rachid Oucheikh at NTNU
- Zacharoula Papamitsiou at NTNU
- Rita Pimentel at RISE SICS AB
- Enislay Ramentol at RISE SICS AB
- Thiago Rocha Silva at NTNU
- Muhammad Safdar at NTNU
- Hector Eloy Sanchez Sardi at Fraunhofer Gesellschaft
- Azamolsadat Seyedi at NTNU
- Kshitij Sharma at NTNU
- Younghak Shin at NTNU
- Jan Slechta at NTNU
- Nikolas Tapia at NTNU
- N Varatharajan at NTNU
- Yllka Velaj at CWI
- Pantelis Vikatos at CNR
- Danyu Yang at NTNU
- Erjon Zoto at NTNU



Number of fellows hosted from 2012 to 2018



Person-months equivalents for the fellows hosted from 2015 to 2018

Martina Lindorfer Receives the 2018 Cor Baayen Young Researcher Award

Martina Lindorfer was selected as the winner of the 2018 Cor Baayen Young Researcher Award. The award committee recognises Martina's impressive achievements and outstanding quality of her research in the field of systems security, especially the analysis of malicious software and mobile operating system vulnerabilities. Martina Lindorfer is a tenure-track assistant professor in the Security & Privacy group at TU Wien. Until recently, she was a postdoctoral researcher in the Computer Security Group (SecLab) at the University of California, Santa Barbara, US. She received her PhD from TU Wien, where she was working at the International Secure Systems Lab (iSecLab). During her PhD, she was also a researcher with SBA Research, the largest research centre in Austria which exclusively addresses information security, where she was advised by Edgar Weippl, SBA Research's research director.

Malware is the basis of many forms of cybercrime. Motivated by financial gains, malware authors are constantly evolving their code to increase their profit by evading security defences and

*Martina Lindorfer
receiving the award
from the ERCIM
president Jos Baeten.*



developing new monetisation techniques. Manual analysis of an ever-increasing number of malware samples is infeasible and developing effective and efficient automated analysis methods is technically challenging because source code for these types of programs is not available, and malware binaries are highly obfuscated and designed to foil any type of analysis. In her work, Martina developed novel techniques to address the challenges faced by large-scale dynamic analysis of malware samples due to the arms race against malware authors. Martina has also developed novel analysis techniques for detecting and mitigating privacy leaks in mobile apps.

During her postdoctoral work she expanded her research to the exploitation of the Rowhammer bug, which is a low-level vulnerability in operating systems and hardware that can be exploited by malicious apps, and defences against the resulting attacks. In her resulting work - *Drammer: Deterministic Rowhammer Attacks on Mobile Platforms* - she demonstrated for the first time that this vulnerability also affects mobile devices, and that it can be exploited deterministically, without having to rely on software vulnerabilities or special operating system services. In follow-up work, "GuardION," she also demonstrated how Google's patches against *Drammer* are incomplete, and proposed a better defence based on memory isolation, which is expected to be integrated in future Android versions.

Her research on *Drammer* received a number of awards: the Best Paper Award at the CSAW Applied Research Competition, the Best Dutch Cyber Security Research Paper (DCSRP), as well as a Pwnie award for Best Privilege Escalation Bug and a Pwnie nomination for Most Innovative Research at Black Hat 2017. *Drammer* was also recognised by the Android Security Rewards Program, and has prompted Google to issue a number of patches. She developed a popular Android app to allow users to verify whether their devices are vulnerable.

Beyond academic publications, her work has had a significant impact on the research community and society in general. Fellow researchers, malware analysts in industry, as well as individuals who were interested in the security and privacy implications of mobile apps have frequently used her dynamic Android app analysis sandbox "Andrubis." It was used by law enforcement to analyse suspicious apps found on seized devices, and featured in TV news programmes. The techniques used by *Andrubis* and her follow-up work are now being widely used in industry: they are integrated in anti-virus solutions, being sold as stand-alone products and services to secure enterprises, and used by app market operators, such as Google, to vet apps before they are being published and made available to the general public.

Her work on privacy leak detection with *ReCon*, which is a service for detecting and blocking private information leaks in mobile app traffic, received a grant from the Data Transparency Lab. *ReCon* and its follow-up work are also publicly available to end users. Her analysis on the longitudinal privacy behaviour of mobile apps serves as a guideline for users to decide whether to install or update an app, based on their personal privacy preferences. Her work has also raised the interest of regulatory agencies, such as the Federal Trade Commission (FTC), and telecom providers, who are interested in adopting her techniques to protect consumers' privacy. *ReCon* was also featured in the short film documentary "Harvest" to raise awareness of mobile privacy issues. The film was shown at several prestigious film festivals, including Aspen Shortsfest, HotDocs, Seattle International Film Festival, and the Rooftop Films summer series in New York.

2018 Award

Winner:

- Martina Lindorfer (TU Wien), nominated by Edgar Weippl (SBA)

Finalists:

- Demetrios Trihinas (University of Cyprus) nominated by George Pallis (University of Cyprus)
- Martina Lindorfer (University of California) Edgar Weippl;"SBA Research";"
- Orestis Kostakis (Microsoft Corporation) nominated by Tuomo Tuikka (VTT Technical Research Centre of Finland)
- Diane Peurichard (Inria) nominated by Alain Viari (Inria)
- Tamás Harczos (IMMS gGmbH) nominated by Karlheinz Brandenburg (Fraunhofer IDMT)

Award

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 Cor Baayen Award is a young researcher prize: The selection panel therefore considers the quality of the PhD thesis and all the achievements done up to the nomination date. The award carries a prize of € 5,000. The winner is invited to the ERCIM autumn meetings.

Outreach

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.



*Andreas Rauber,
SBA Research, chair of the
ERCIM Outreach Task Group*

ERCIM News

Since ERCIM's creation in 1989, the quarterly ERCIM News has been reporting on leading edge European research and developments in Information and Communication Science and Technology (ICST) and Applied Mathematics.

When Inria, CWI and former GMD founded ERCIM in 1989, the establishment of an 'in-house magazine' with the aim of reporting on joint activities was one of the first 'joint actions'. ERCIM rapidly evolved from a black-and-white in-house magazine to a full colour publication covering reports and news about scientific projects from all over Europe and even beyond.

By October 1994, the newsletter was published both in printed and electronic format. At that time, ERCIM News was among the first 5,000 Web sites in the world. Surprisingly, the electronic edition did not detract from the success of the printed edition – instead, many new readers who found us on the Web also subscribe to the printed edition, thus increasing its circulation. The peak was reached in 2009 with a circulation of over 10,000 printed copies. Since then, with the spread of smartphones and tablets, the circulation of the printed edition has reduced whilst the online readership has increased. In 2012, for the first time, more people subscribed to the electronic than to the printed edition. ERCIM News currently maintains a circulation of 3,000 printed copies and more than 7,800 people subscribed to the online edition.

From the early issues on, each issue has focused on a special theme identified by the editorial board. The ERCIM News series has thus become a unique collection providing an overview on a wide range of research topics in ICST and Applied Mathematics. All articles in ERCIM News are written by the scientists themselves and professionally edited. The structure of the articles and the limited length also make them comprehensible for non-experts. Thanks to these unique characteristics, ERCIM News has become well-known in the world of scientific publications, and regular positive feedback from our readers has encouraged us to continue in this way. Indeed, our readership comprises not only scientists, but also students, decision makers, professionals within the industry, representatives from the European Commission, and politicians.

In 2018 ERCIM News published the issues nos 113 - 116. Since its creation, more than 2,000 articles have been articles. The popularity of ERCIM News can be credited primarily to our authors to whom the ERCIM editorial board wants to express their warmest thanks on this occasion.

In 2018 ERCIM News issues covered the following special themes:

- ERCIM News 113: Quantum Computing
- ERCIM News 113: Smart Farming
- ERCIM News 114: Human-Robot Interaction
- ERCIM News 115: Digital Twins

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

ERCIM News Editorial Board

(as of December 2018)

Central editor:

- Peter Kunz, ERCIM Office

Local editors:

- Christine Azevedo Coste, Inria
- Andras Benczur, SZTAKI
- José Borbinha, Technical University of Lisbon, Portugal
- Monica Divitini, NTNU, Norway
- Marie-Claire Fogue, W3C
- Georgja Kapitsaki, UCY
- Lida Harami, ICS-FORTH, Greece
- Athanasios Kalogeras, ISI
- Annette Kik, CWI, The Netherlands
- Alexander Nouak, Fraunhofer-Gesellschaft Germany
- Maria Rudenschöld, RISE SICS, Sweden
- Harry Rudin, Switzerland
- Erwin Schoitsch, AIT Austrian Institute of Technology GmbH/SBA, Austria
- Nguyen Hung Son, University of Warsaw, Poland
- Thomas Tamisier, LIST, Luxembourg
- Maurice ter Beek, ISTI-CNR, Italy



Issues published in 2018.

ERCIM Office

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 2018 are presented in the section “Projects” in this report. They also include projects with participation of the W3C. Some include both W3C and ERCIM members. They provide an 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 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.



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

ERCIM Office Staff

(as of December 2018)

Manager:

- Philipp Hoschka
- Caroline Baron, finance and administration manager
- Peter Kunz, communications, ERCIM News central editor, project coordinator
- Vivien Lacourba, IT manager
- Alexandra Lacourba, event manager and W3C European members administration
- Emma Lière, project assistant and Fellowship Programme coordinator
- Jessica Michel Assoumou, project coordinator
- Claire Moreau, assistant accountant
- Linh Nguyen, project coordinator and assistant
- Pascale Peyrol, project assistant
- Catherine Riou, administrative assistant
- Jean-Guilhem Rouel, systems engineer



ERCIM and W3C

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 RISE 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.

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 Membership

ERCIM is one of the most recognized ICT Societies in Europe. By joining ERCIM, your research institution or university can directly participate in ERCIM's activities and contribute to the ERCIM members' common objectives to play a leading role in Information and Communication Technology in Europe:

- Building a Europe-wide, open network of centres of excellence in ICT and Applied Mathematics;
- Excelling in research and acting as a bridge for ICT applications;
- Being internationally recognised both as a major representative organisation in its field and as a portal giving access to all relevant ICT research groups in Europe;
- Liaising with other international organisations in its field;
- Promoting cooperation in research, technology transfer, innovation and training.

How to become an ERCIM Member

- Prospective members must be outstanding research institutions (including universities) within their country;
- Applicants shall address a request accompanied by short description to the ERCIM Office. The description must contain:
 - Name and address of the institute;
 - Short description of the institute's activities;
 - Staff (full time equivalent) relevant to ERCIM's fields of activity;
 - Number of European projects currently involved in;
 - Name of the representative and the alternate.
- Membership applications will be reviewed by an internal board and may include an on-site visit;
- The decision on admission of new members is made by the General Assembly of the Association, in accordance with the procedure defined in the Bylaws (<http://kwz.me/U7>), and notified in writing by the Secretary to the applicant;
- Admission becomes effective upon payment of the appropriate membership fee in each year of membership;
- Membership is renewable as long as the criteria for excellence in research and an active participation in the ERCIM community, cooperating for excellence, are met.

Benefit of ERCIM membership

Institutions, as members of ERCIM AISBL, benefit from:

- International recognition as a leading centre for ICT R&D. ERCIM, a European-wide network of centres of excellence in ICT, is internationally recognised as a major representative organisation in its field;
- More influence on European and national government R&D strategy in ICT. ERCIM members team up to speak with a common voice and produce strategic reports to shape the European research agenda;
- Privileged access to standardisation bodies, such as the W3C which is hosted by ERCIM as to other bodies with which ERCIM has also established strategic cooperation. These include ETSI, the European Mathematical Society and Informatics Europe;
- Invitations to join projects of strategic importance;
- Establishing personal contacts among executives of leading European research institutes during the bi-annual ERCIM meetings;
- Invitations to join committees and boards developing ICT strategy nationally and internationally;
- Excellent networking possibilities with more than 10.000 high-quality research colleagues across Europe. ERCIM's mobility activities, such as the fellowship programme, leverages scientific cooperation and excellence;
- Professional development of staff including international recognition;
- Publicity through the ERCIM website and ERCIM News, the widely read quarterly magazine.

For further information about how to join ERCIM AISBL, please contact the ERCIM Office (contact@ercim.eu)

Institutions member of ERCIM in 2018:



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



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www.sba-research.org/



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



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