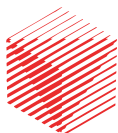


Connected Excellence in Research

Activity Report 2025

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ERCIM – the European Research Consortium for Informatics and Mathematics – fosters collaborative research across Europe and strengthens cooperation between research and industry.

15
member institutes

14
countries

10 000
researchers

1989
founded

100+
EU projects

800+
fellows

What is ERCIM?

ERCIM – the European Research Consortium for Informatics and Mathematics – is a consortium of leading European research organisations in informatics, mathematics and related digital technologies. It fosters collaboration across Europe's research community and strengthens links between research and industry.

Through its network of centres of excellence, ERCIM promotes scientific collaboration, researcher mobility and knowledge exchange across national borders. Its activities include collaborative research projects, Working Groups, fellowships, strategic reports and scientific events. ERCIM is also the European Partner of the World Wide Web Consortium (W3C), contributing to the development of open Web standards.

Objectives

ERCIM's mission is to help ensure that Europe plays a leading role in Information and Communication Technologies (ICT). To achieve this, ERCIM connects leading research organisations across Europe, enabling collaboration, innovation and the sharing of knowledge and expertise.

Through its participation in European research and innovation projects, ERCIM advances scientific knowledge while helping bridge fundamental research and practical applications. Working closely with partners worldwide, including non-European research organisations and international bodies, ERCIM strengthens international cooperation, promotes technology transfer and supports the next generation of researchers through its fellowship programme and other training activities.

By creating synergies across these activities, ERCIM delivers value for its members, contributes to European research and innovation strategies, and helps drive scientific excellence in ICT.

International Cooperation

International cooperation is a core element of ERCIM's mission. ERCIM is the European Partner of the World Wide Web Consortium (W3C), strengthening Europe's contribution to the development of open Web standards. ERCIM also maintains strategic partnerships with research organisations, industry associations and funding agencies worldwide, including the Japan Science and Technology Agency (JST), Adra, AIOTI and ACM Europe, fostering scientific collaboration and knowledge exchange.

Research and Innovation

ERCIM promotes the transfer of research results into innovative technologies and applications through collaborative research, European projects and partnerships with industry and public-sector organisations. Researchers from ERCIM member organisations contribute their expertise to advisory bodies, expert groups and strategic initiatives at the European level, helping shape research agendas and technology roadmaps.

Research Projects

ERCIM participates in European research and innovation projects as coordinator or partner, often involving several ERCIM member organisations. These collaborative projects address strategic research challenges while strengthening scientific collaboration across Europe. The ERCIM Office provides professional project coordination, administrative, financial and communication support, allowing participating researchers to focus on scientific and technical excellence.

Working Groups

ERCIM Working Groups are specialist scientific networks established by researchers to promote collaboration in specific areas of informatics, mathematics and digital technologies. They provide a forum for exchanging ideas, building research communities and developing collaborative initiatives. Working Groups are open to researchers from academia, research organisations and industry.

Members

ERCIM members are leading research organisations with internationally recognised expertise in informatics, mathematics and related digital technologies. They maintain strong links with academic, industrial and public-sector research communities and actively contribute to European and international research and innovation programmes. Together, they form a European network of excellence for scientific collaboration and innovation.

ERCIM members benefit from a unique European network for scientific collaboration, participation in strategic initiatives and European projects, and increased international visibility. Further information on membership is provided on the following page.

Organisational Structure

Governance

ERCIM operates through two complementary legal entities:

- ERCIM AISBL, an international non-profit association under Belgian law, responsible for ERCIM's activities relating to collaborative research, networking and community development.
- ERCIM EEIG, the European Economic Interest Grouping, responsible for the operation of the ERCIM Office and for supporting ERCIM's role as the European Partner of W3C.

ERCIM Meetings: Collaboration and Governance

ERCIM holds two meetings each year, in spring and autumn, typically hosted by a member organisation. These meetings are an important forum for discussion, decision-making and collaboration across the ERCIM community. They bring together the Board, Task Groups and representatives of the member organisations to review ongoing activities, define strategic priorities and strengthen scientific collaboration. The autumn meeting also includes the AISBL General Assembly, providing an opportunity for all members to exchange ideas and contribute to the future direction of ERCIM.

The ERCIM 2025 spring meetings were hosted by ISI in Athens, Greece, on 13–14 May 2025.

The ERCIM 2025 autumn meetings were hosted by Inria in Rennes, France, on 29–30 October 2025.

ERCIM AISBL

The ERCIM AISBL is managed by the Board of the Association:

- Björn Levin, RISE, Sweden, President
- Christos Koulamas, ISI, Greece, Treasurer
- Gabriel David, INESC TEC and University of Porto, Portugal, General Secretary

and in addition:

- Han La Poutré, CWI, Strategy Task Group Chair and Vice-President
- Dimitris Plexousakis, FORTH-ICS, Science Task Group Chair
- Monica Divitini, NTNU, Human Capital Task Group Chair
- Andreas Rauber, SBA Research and TU Vienna, Outreach Task Group Chair.

At the ERCIM autumn meetings in Rennes, the AISBL General Assembly elected a new Board, which takes office on 1 January 2026:

- Han La Poutré, CWI, President
- Fabio Martinelli, CNR, Vice-President and Strategy Task Group Chair
- Christos Koulamas, ISI, Treasurer
- Alexander Nouak, Fraunhofer-Gesellschaft, General Secretary

The following Board members continue in their roles as Task Group Chairs:

- Dimitris Plexousakis, FORTH-ICS, Science Task Group Chair
- Monica Divitini, NTNU, Human Capital Task Group Chair
- Andreas Rauber, SBA Research and TU Vienna, Outreach Task Group Chair.

ERCIM EEIG

The ERCIM EEIG is governed by the EEIG Board of Directors.

In 2025, the board comprised:

- Bruno Sportisse, Inria (President of ERCIM EEIG)
- Dimitris Plexousakis, FORTH-ICS

and supported by an Executive Committee:

- Marie-Hélène Pautrat, Inria
- Yannis Tsikikas, FORTH-ICS.

ERCIM Membership



ERCIM brings together leading European research organisations in informatics, mathematics and related digital technologies. Through their active participation in the Association, members contribute to ERCIM's scientific, strategic and international activities while benefiting from a strong European network for collaboration, knowledge exchange and innovation.

Members benefit from opportunities to:

- participate in ERCIM Working Groups and European research projects;
- contribute to strategic initiatives and research policy discussions;
- collaborate with European and international partner organisations;
- engage in executive-level networking through the ERCIM Board and biannual meetings;
- increase institutional visibility through ERCIM's publications and communication activities.

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

ERCIM Member Institutions in 2025



Consiglio Nazionale delle Ricerche, Italy
www.iit.cnr.it



I.S.I. - Industrial Systems Institute
Patras, Greece
www.isi.gr



Centrum Wiskunde & Informatica

Centrum Wiskunde & Informatica
Amsterdam, The Netherlands
www.cwi.nl



Norwegian University of Science and Technology
Trondheim, Norway
<http://www.ntnu.no/>



Fonds National de la Recherche Luxembourg

Fonds National de la Recherche
Luxembourg
www.fnrl.lu



RISE
Sweden
<http://www.sics.se/>



Foundation for Research and Technology - Hellas
Heraklion, Crete, Greece
www.ics.forth.gr



SBA Research gGmbH
Wien, Austria
www.sba-research.org/



Eötvös Loránd Research Network
Számítástechnikai és Automatizálási Kutató Intézet
Budapest, Hungary
www.sztaki.hu/



Fraunhofer ICT Group
Berlin, Germany
www.iuk.fraunhofer.de



University of Cyprus
Nicosia, Cyprus
www.cs.ucy.ac.cy/



INESC
Portugal
www.inesc.pt



UNIVERSIDAD DE MÁLAGA

Institute for Software Engineering and Software Technology
"Jose María Troya Linero", University of Malaga
Málaga, Spain
<https://gp.uma.es/itis>



Institut national de recherche en sciences et technologies du numérique
France
www.inria.fr



University of Warsaw
Faculty of Mathematics, Informatics and Mechanics
Warsaw, Poland
www.mimuw.edu.pl/

ERCIM Office

The ERCIM Office is located in southern France at the Inria Sophia Antipolis – Méditerranée Research Centre, where it is hosted by Inria. The Office manages the day-to-day operations of ERCIM and also serves as the European Partner of the World Wide Web Consortium (W3C).

ERCIM Office Team

- Dominique Hazaël-Massieux
Manager
- Caroline Baron
Deputy Manager
- Laurent Carcone
Systems Engineer
- Peter Kunz
*Communications, ERCIM News
Central Editor, Project Coordinator*
- Vivien Lacourba
IT Manager
- Emma Lière
*Project Assistant and Fellowship
Programme Coordinator*
- Jessica Michel Assoumou
Project Coordinator
- Pascale Peyrol
Project Controller
- Catherine Riou
Administrative Assistant



*Dominique Hazaël-Massieux,
manager of ERCIM*

With its experienced team, the ERCIM Office provides administrative, financial and operational support to the ERCIM network. It assists member institutes in the preparation and management of European research projects, acting as coordinator or partner where appropriate, thereby enabling researchers to focus on scientific excellence. Since its creation, the Office has contributed to the successful management of more than 100 European projects. The projects active in 2025 are presented in the Projects chapter of this report, including several involving W3C that illustrate ERCIM's role in supporting Web standardisation activities.

The Office also delivers a broad range of services to the ERCIM community. These include the management of the ERCIM Fellowship Programme, the coordination of the Cor Baayen Early Career Researcher Award, website development and maintenance, the publication of ERCIM News, event organisation, communication activities, secretariat services, and the administration of collaboration tools and internal knowledge resources.

Operating under the responsibility of the ERCIM EEIG Board of Directors, the ERCIM Office is also entrusted with the financial management of ERCIM AISBL. Through its central coordination role, it ensures the efficient day-to-day operation of the ERCIM network and supports collaboration among its member institutes and partners.

ERCIM and W3C

ERCIM hosted the European headquarters of the World Wide Web Consortium (W3C) from 2003 until the formation of W3C Inc. in January 2023. Since then, ERCIM has continued its close relationship with W3C as its European Partner, building on two decades of collaboration in support of open Web standards and technologies.

Several W3C staff members are employed by ERCIM EEIG, creating a close integration between the two organisations. Their internationally recognised expertise in Web technologies, interoperability and standardisation strengthens ERCIM's participation in European collaborative projects and helps bridge research, innovation and standards development.

ERCIM and W3C benefit from a close partnership that combines ERCIM's research network with W3C's expertise in Web technologies and standards.



Science Coordination

A core mission of ERCIM is to promote scientific excellence and foster collaboration in informatics, mathematics and related digital technologies. The Science Task Group supports this mission by coordinating ERCIM's scientific activities, including Working Groups, collaborative research projects and strategic scientific initiatives.

In 2025, the Science Task Group continued to support ERCIM's portfolio of Working Groups and research projects. It also followed up on the 5th ERCIM-JST Joint Symposium, held in Budapest in October 2024, whose reports were published in 2025. This marked the conclusion of the latest phase of ERCIM's strategic scientific exchange with the Japan Science and Technology Agency (JST), initiated in 2021.

The Science Task Group's activities focus on:

- Working Groups, which bring together researchers from ERCIM member organisations and beyond to foster collaboration and build scientific communities in specific research fields.
- Projects, which stimulate the development of ERCIM-led research and innovation projects and promote new strategic research directions.
- Strategic scientific initiatives, including workshops, symposia and reports on emerging research topics of common interest to the ERCIM community.

The Science Task Group comprised the following members in 2025:

Chair:

- Dimitris Plexousakis, FORTH-ICS

Members:

- Javier Cámara, University of Málaga
- Gabriel David, INESC TEC
- Joost Goerts, Inria
- Christos Koulamas, ISI
- John Krogstie, NTNU
- Decebal Mocanu, FNR/University of Luxembourg
- Han La Poutré, CWI
- Björn Levin, RISE
- Marie-Hélène Pautrat, Inria
- João Vilela, INESC TEC
- Edgar Weippl, SBA Research.

Science Coordination webpage:
<https://www.ercim.eu/science>

New Working Groups

In 2025, ERCIM established four new Working Groups:

- Quantum Technologies
- Artificial Intelligence and Intelligent Systems (AIIS)
- Inclusive Digital Futures: Developing Technology and Culture
- Software Research (jointly with Informatics Europe)

The Quantum Technologies Working Group launched its activities with its inaugural workshop in December 2025 (see page 9).

Working Groups webpage:

<https://www.ercim.eu/science/workgroup>



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



ERCIM Forum “Beyond Compliance” 2025

The fourth ERCIM Forum "Beyond Compliance" was held from 29 to 31 October 2025 at the Inria Centre in Rennes, France. Established by ERCIM in 2022, the Forum provides an international platform for discussing the ethical, societal and regulatory challenges arising from digital research and innovation. Returning to France after its inaugural edition in Paris, the 2025 Forum once again brought together researchers, policy experts and practitioners to explore responsible approaches to digital technologies.

The three-day programme addressed five key themes: security in the digital society, geopolitics of digital ethics, data altruism and open academic resources, generative AI in research, teaching and publishing, and AI's impact on behaviour and cognition. Hosted by the Inria Centre at Rennes University and IRISA, the

Forum reaffirmed ERCIM's commitment to interdisciplinary dialogue on the responsible development and use of digital technologies.

The opening session was organised jointly with the Informatics Europe Ethics Working Group, highlighting shared European perspectives on ethics in digital research. Throughout the Forum, keynote speakers and panel discussions explored the implications of generative AI for research and education, the governance of open scientific resources, the ethical challenges posed by

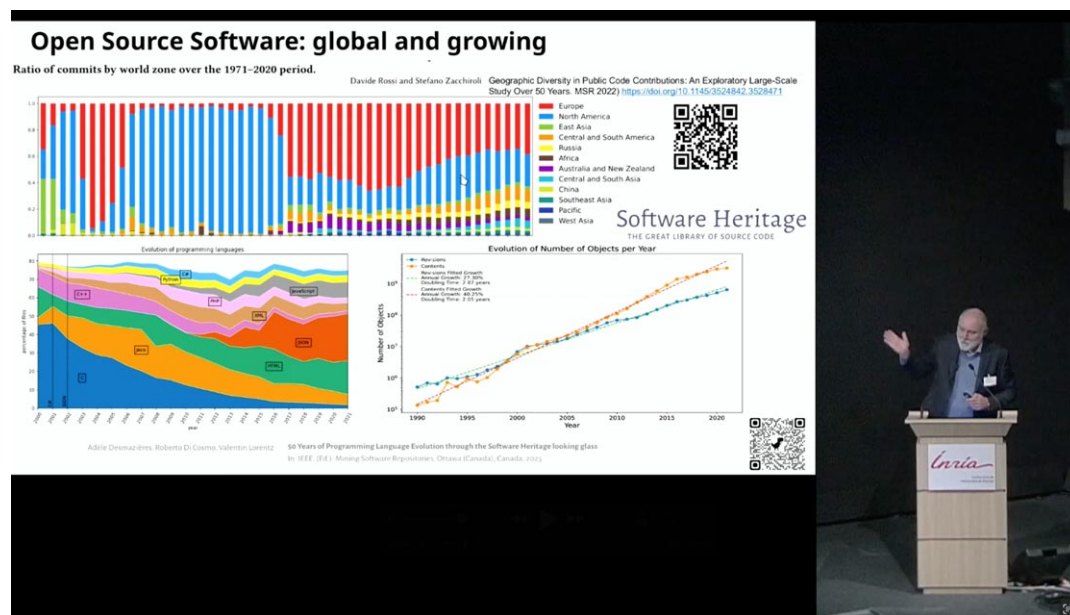
autonomous systems, and the evolving European and international policy landscape for trustworthy AI.

A recurring theme throughout the discussions was that ethical governance of digital technologies extends beyond regulatory compliance. Participants emphasised the importance of transparency, accountability, openness and continuous dialogue between researchers, policymakers and society to ensure that technological innovation serves the public good.

Recordings of the presentations and further information about the Forum are available on the Beyond Compliance website.

Beyond Compliance website:

<https://www.ercim.eu/science/beyond-compliance-digital-ethics-in-research>



Roberto Di Cosmo from Inria and University Paris Cité, presenting “No science without source: collecting, preserving and sharing software in a risky world” during the session “Data altruism and open academic resources” on Thursday, 30 October 2025.

First Workshop of the ERCIM Working Group on Quantum Technologies

The inaugural workshop of the newly established ERCIM Working Group on Quantum Technologies (QT) was held on 2 December 2025 in Vietri sul Mare, Italy, as part of the XXI ICAR–CNR Workshop. Supported by the National Quantum Science and Technology Institute (NQSTI), the event marked the official launch of ERCIM's newest Working Group and brought together researchers, industry representatives and policymakers to discuss future directions in quantum computing, communication and sensing.

The Working Group was established in response to the rapid development of quantum technologies and their growing strategic importance for Europe. Chaired by José Francisco Chicano García (University of Málaga) and Carlo Mastroianni (CNR-ICAR), the group aims to strengthen collaboration between ERCIM members, academia and industry, promote joint research initiatives, and support European activities in quantum computing, quantum communication, quantum sensing and quantum hardware. Particular emphasis will be placed on collaborative projects, scientific workshops and knowledge exchange.

The workshop featured presentations from leading European research organisations, the European Commission and industrial partners, covering topics such as quantum algorithms, quantum networking and security, hybrid quantum–classical systems, quantum software engineering and emerging hardware platforms. The discussions highlighted the importance of close collaboration between academia and industry to address challenges related to scalability, benchmarking, software development and the deployment of practical quantum technologies.

A major outcome of the workshop was the agreement to develop joint research initiatives and expand the Working Group to include additional ERCIM members, research organisations and industrial partners. Participants also identified European research programmes, including the Quantum Flagship, as important opportunities for future collaboration. To support community building and dissemination, a special issue of ERCIM News dedicated to Quantum Technologies is under preparation.

Researchers interested in contributing to the activities of the Working Group are invited to contact the chairs. Further information about the workshop and the Working Group is available on the Working Group website.

Quantum Technologies WG website:
<https://ercim-qt-wg.icar.cnr.it/>

About the QT Working Group

The ERCIM Quantum Technology (QT) Working Group fosters collaboration between academia and industry to advance research, innovation, and the adoption of quantum technologies across Europe.

Working Group Chairs:
 Francisco Chicano (Universidad de Málaga) and Carlo Mastroianni (CNR-ICAR)



Fabio Martinelli, Director of CNR-ICAR, addresses the participants at the ERCIM event on Quantum Technologies, held as part of the XXI ICAR–CNR Workshop on 2 December 2025.

AIOTI Workshop: Semantic Interoperability for Digital Twins

ERCIM hosted the AIOTI (Alliance for AI, IoT and Edge Continuum Innovation) Workshop on Semantic Interoperability for Digital Twins in Sophia Antipolis, France, on 5–6 February 2025. The event brought together around 50 researchers, industry experts and practitioners for two days of presentations and discussions on the role of semantic technologies in enabling interoperable digital twins.

The workshop explored advances in semantic interoperability to support industrial and commercial applications. As digital twins become increasingly important across sectors, the ability of systems to exchange data with a shared and well-defined meaning is essential for integrating heterogeneous data sources and supporting European initiatives such as the Green Deal and the circular economy.

Participants discussed a wide range of topics, including ontology engineering, data mapping, controlled vocabularies, standards for industrial digital twins, vocabulary management and the emerging role of generative AI in semantic interoperability. Particular attention was given to practical solutions, reusable semantic models and user-friendly tools that facilitate the adoption of semantic technologies in real-world applications.

The workshop concluded with recommendations highlighting the importance of continued collaboration between researchers, industry and standardisation bodies. Key priorities include improving data mapping and ontology alignment, strengthening governance of semantic resources, and developing practical tools that support the wider deployment of interoperable digital twin technologies.



The workshop presentations and the full report, including the recommendations, are available on the ERCIM website. The workshop chairs thank the programme committee, all participants, Inria for hosting the event, and the EU projects Nephele and SmartEdge for their support.

Workshop website:
<https://kwz.me/hGi>

Participants at the AIOTI Workshop on Semantic Interoperability for Digital Twins.

30th International Conference on Formal Methods for Industrial Critical Systems (FMICS 2025)

The 30th International Conference on Formal Methods for Industrial Critical Systems (FMICS 2025), organised by the ERCIM Working Group on Formal Methods for Industrial Critical Systems (FMICS), was held in Aarhus, Denmark, on 27–28 August 2025.

FMICS is the leading annual conference dedicated to the application of formal methods in industry. The conference provides a forum for researchers and practitioners to present advances in formal methods, exchange experiences from industrial applications, and promote the development of methods and tools for safety- and mission-critical systems. The 30th edition marked an important milestone in the history of the conference series, which has been hosted across Europe over the past three decades.

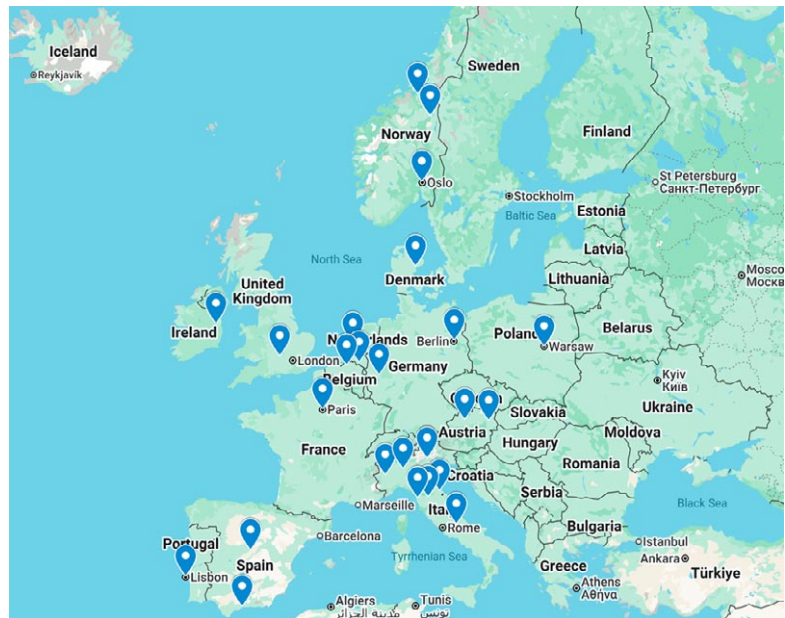
FMICS 2025 attracted around 50 participants from academia and industry worldwide. The programme featured 13 peer-reviewed papers, selected from 24 submissions, together with two invited keynote presentations by Ina Schieferdecker (Technical University of Berlin, Germany) and Arnd Hartmanns (University of Twente, The Netherlands). Held as part of CONFEST 2025, alongside CONCUR and QEST+FORMATS, the conference benefited from a vibrant scientific environment and extensive interaction with the wider formal methods community.

The FMICS 2025 Best Paper Award was presented to Stefan Hallerstede (Aarhus University, Denmark), Robby, John Hatcliff and Jason Belt (Kansas State University, USA), and David Hardin (Collins Aerospace, USA) for “Proof Engineering in Logika: Synergistically Integrating Automated and Semi-Automated Program Verification”. The award was sponsored by Springer and EASST.

Further information about FMICS 2025, including the conference programme and proceedings, is available on the conference website.

FMICS 2025 conference website:
<https://fmics2025.uni-muenster.de/>

ERCIM FMICS Working Group:
<https://fmics.inria.fr/>



The annual conference of ERCIM's FMICS WG has been organised all over Europe.

About the FMICS Working Group

The ERCIM Formal Methods for Industrial Critical Systems (FMICS) Working Group advances the development and industrial adoption of formal methods to improve the reliability and correctness of critical systems.

Working Group Chair:
 Maurice ter Beek (CNR-ISTI)

13th International Workshop on Computational Intelligence for Multimedia Understanding

About the MUSCLE Working Group

The ERCIM Working Group on Multimedia Understanding through Semantics, Computation and Learning (MUSCLE) promotes collaboration in multimedia analysis, machine learning and semantic technologies. Its activities include scientific workshops, collaborative research, training events and support for early-career researchers.

Coordinator:
Davide Moroni (CNR-ISTI, Italy)

The 13th International Workshop on Computational Intelligence for Multimedia Understanding (IWCIM), organised by the ERCIM Working Group on Multimedia Understanding through Semantics, Computation and Learning (MUSCLE), was held as a special session of the IEEE International Symposium on Circuits and Systems (ISCAS) 2025 in London.

The workshop brought together 25 researchers for a full day of presentations and discussions on recent advances in multimedia intelligence. Six papers covered a broad range of topics, including infrared-based air leak detection, accent-sensitive phoneme recognition, fog computing, SAR-based ship classification, and robust fingerprint modelling, illustrating the diversity of current research in the field.

The IWCIM workshop series provides an international forum for researchers from academia and industry to present new results, exchange ideas, and strengthen collaboration in multimedia understanding and computational intelligence. Further information, including the workshop programme, is available on the IWCIM website.

IWCIM workshop website:
<https://iwcim.itu.edu.tr/>



Presenting authors and workshop organiser Maria Trocan at IWCIM 2025.

21st International Workshop on Security and Trust Management (STM 2025)

The 21st International Workshop on Security and Trust Management (STM 2025), organised by the ERCIM Working Group on Security and Trust Management (STM), was held in Toulouse, France, on 25–26 September 2025 in conjunction with the 30th European Symposium on Research in Computer Security (ESORICS 2025). The workshop is part of a long-standing series dedicated to advances in security, privacy and trust in information and communication technologies.

STM provides an international forum for researchers and practitioners from academia, industry and government to present and discuss novel approaches to the theoretical and practical aspects of security and trust management. Topics included access control, privacy, applied cryptography, cloud and IoT security, trust management, and other emerging challenges in cybersecurity.

The 2025 edition featured 13 peer-reviewed papers, selected from 26 submissions through a rigorous review process. Organised alongside ESORICS 2025, the workshop offered participants the opportunity to exchange ideas with the broader European cybersecurity research community and to strengthen collaboration across academia, industry and the public sector. The proceedings were published by Springer in the Lecture Notes in Computer Science (LNCS) series.

Further information about STM 2025, including the workshop programme and proceedings, is available on the workshop website.

STM 2025 webpage:
<https://nics.uma.es/stm2025/>

About the STM Working Group

The ERCIM Working Group on Security and Trust Management (STM) brings together researchers working on cybersecurity, privacy and trust in information and communication technologies. It promotes European collaboration through research projects, scientific workshops and the exchange of expertise, addressing emerging challenges in secure and trustworthy digital systems.

Coordinators:

Cristina Alcaraz (University of Málaga, Spain) and Sokratis Katsikas (NTNU, Norway)



The STM 2025 proceedings were published by Springer in the Lecture Notes in Computer Science (LNCS) series (Vol. 16137).

20th Workshop on Dependable Embedded and Cyber-Physical Systems (DECSoS 2025)

The 20th Workshop on Dependable Embedded and Cyber-Physical Systems (DECSoS 2025), co-organised by the ERCIM Working Group on Dependable Software-Intensive Embedded Systems (DES), was held on 9 September 2025 in Stockholm, Sweden, as part of SAFECOMP 2025. ERCIM was also a conference partner of SAFECOMP 2025, further strengthening its long-standing involvement in the European safety and dependability community.

About the DES Working Group

The ERCIM Working Group on Dependable Software-Intensive Embedded Systems (DES) brings together researchers working on dependable embedded and cyber-physical systems. It promotes collaboration through scientific workshops and joint research activities.

Coordinator:
Erwin Schoitsch (AIT Austrian Institute of Technology)

Members of the ERCIM DES Working Group also contributed to the 33rd Interdisciplinary Information Management Talks (IDIMT 2025) by co-organising the session AI and Autonomous Systems, focusing on dependable and intelligent systems for critical applications.

DECSoS provides an international forum for researchers and practitioners from academia and industry to discuss advances in dependable embedded systems, cyber-physical systems and safety-critical applications. The workshop addresses emerging challenges in the design, verification and operation of software-intensive systems, with particular emphasis on safety, security, reliability and resilience.

The 2025 edition brought together contributions on dependable AI, autonomous and cyber-physical systems, verification and validation, safety assurance, and engineering methods for critical applications. As a long-standing part of the SAFECOMP workshop programme, DECSoS continues to promote collaboration between the research community and industry in the development of trustworthy software-intensive systems.

Further information about the workshop, including the programme and proceedings, is available on the SAFECOMP website.

SAFECOMP conference website:
<https://safecomp2025.se/>



Panel discussion at SAFECOMP 2025. Source: digitalfutures.kth.se



European Projects

In 2025, ERCIM participated as a partner in four projects funded by the European Commission:

- **AIOLIA**
Operationalizing AI Ethics for Learning and Practice: A Global Approach
- **GLACIATION**
Green Responsible Privacy-preserving Data Operations
- **NEPHELE**
A lightweight software stack and synergetic meta-orchestration framework for the next generation compute continuum
- **SmartEdge**
Semantic Low-code Programming Tools for Edge Intelligence

European research projects are a key instrument for fostering scientific collaboration across institutions, disciplines and countries. ERCIM contributes to these projects both scientifically and through its expertise in project coordination and management. The ERCIM Office supports proposal preparation, project administration, financial management, communication and dissemination, enabling research consortia to focus on scientific and technological excellence. ERCIM is open to cooperation with research organisations and industry, provided that at least one ERCIM member institute participates in the consortium.

More information:

<https://www.ercim.eu/science/projects>



AIOLIA

AIOLIA is a Horizon Europe project that promotes the responsible development and use of artificial intelligence by translating ethical principles into practical methods, tools and guidance for researchers, developers and policymakers. The project addresses the ethical challenges arising from AI systems that influence human cognition, behaviour and decision-making, with the objective of supporting the development of trustworthy AI that respects European values and fundamental rights.

Bringing together partners from research, industry and the public sector, AIOLIA develops educational resources, practical case studies and policy recommendations that help bridge the gap between high-level ethical principles and their implementation in research and innovation. By combining expertise in artificial intelligence, ethics, law and social sciences, the project aims to foster a culture of responsible AI development and strengthen ethical awareness throughout the AI system lifecycle.

Within AIOLIA, ERCIM contributes to training and community engagement. In collaboration with INESC TEC, an ERCIM member institute, ERCIM is preparing a Training in Digital Ethics to be held in Porto, Portugal, in October 2026. The training will introduce early-career researchers, PhD students and academics to the ethical principles of trustworthy AI through lectures, discussions and practical case studies developed within the project. Particular emphasis will be placed on integrating ethical reflection into the design and development of AI systems.

AIOLIA – Operationalizing AI Ethics for Learning and Practice: A Global Approach

Total budget: € 2 999 895

EU funding: € 2 999 895

ERCIM's role:
ERCIM EEIG project partner

ERCIM contact:
Jessica Michel Assoumou

ERCIM members involved:
RISE, INESC TEC

Coordinator:
CEA, France

Duration:
February 2025 – January 2028

Website:
<https://aiolia.eu/>



Laurynas Adomaitis (RISE) presenting "An Oracle or an Intern? Using GenAI in Research" at the ERCIM Forum Beyond Compliance in October 2025. The presentation highlighted AIOLIA's work on ethics-by-design approaches.

GLACIATION



As digital services increasingly rely on distributed computing across edge, core and cloud infrastructures, new approaches are needed to manage data securely, efficiently and sustainably. The Horizon Europe project GLACIATION addressed this challenge by developing technologies that minimise unnecessary data movement while preserving privacy and reducing energy consumption. At the heart of the project is a distributed knowledge graph that enables intelligent data management across heterogeneous computing environments, supported by AI-based workload orchestration and privacy-preserving technologies.

During its three-year duration, GLACIATION developed an integrated platform combining distributed knowledge graphs, AI-enabled workload placement, privacy-preserving data processing and energy-aware orchestration. The platform enables organisations to deploy data-intensive applications across the edge–core–cloud continuum while balancing performance, energy efficiency, security and regulatory compliance. The project also demonstrated its technologies in several industrial and public-sector use cases, contributing to Europe's ambitions for trustworthy and sustainable digital infrastructures.

ERCIM contributed to GLACIATION both technically and through communication and dissemination activities. On the technical side, ERCIM helped develop common metadata models supporting interoperable, trustworthy data management across distributed edge, core and cloud infrastructures. These models provide a semantic foundation for integrating services and applications while supporting privacy, interoperability and efficient data operations. ERCIM also contributed to the project's visibility and outreach by supporting communication, dissemination and stakeholder engagement activities, helping to share GLACIATION's results with the wider European research and innovation community.



Participants in the GLACIATION project at the final conference on 16 September 2025 and the 6th and last General Assembly on 17 September 2025.

GLACIATION – Green Responsible
Privacy-preserving Data Operations

Total budget: € 8 256 914

EU funding: € 8 256 914

ERCIM's role:
ERCIM EEIG project partner

ERCIM/W3C contact:
Rigo Wenning

Coordinator:
Ministero dell'economia e delle finanze
- MEF, Italy

Duration:
October 2022 – September 2025

Website:
<https://glaciation-project.eu/>



NEPHELE

NEPHELE was a Horizon Europe project developing an open software platform for the IoT–edge–cloud computing continuum. As billions of connected devices generate increasing amounts of data, applications require intelligent orchestration across distributed computing resources while ensuring interoperability, security and efficient resource management. NEPHELE addressed these challenges by developing an open, modular architecture combining IoT virtualisation, edge and cloud orchestration, distributed intelligence and AI-assisted resource management. The resulting open-source platform enables developers to build and deploy hyper-distributed applications across heterogeneous computing environments while remaining interoperable with established standards and open-source ecosystems.

A key objective of the project was to promote openness and interoperability through the adoption of international standards. NEPHELE contributed to the development of open-source software, semantic interoperability mechanisms and standardised interfaces for the Web of Things, helping bridge IoT technologies with next-generation cloud and edge computing infrastructures. During the project, the platform was validated in a broad range of industrial application domains, including logistics, smart buildings, healthcare and emergency management.

ERCIM contributed both technically and strategically to the project. It participated in the development of semantic technologies for modelling digital twins based on knowledge graphs and contributed to the project's work on Web of Things interoperability. Building on ERCIM's role as the European Partner of W3C, ERCIM also led the project's standardisation activities, strengthening collaboration between W3C, ETSI, AIOTI and other European initiatives. In February 2025, ERCIM organised the AIOTI Workshop on Semantic Interoperability for Digital Twins, bringing together researchers, industry representatives and standards organisations to advance interoperability across the IoT–edge–cloud continuum.

NEPHELE – A lightweight software stack and synergetic meta-orchestration framework for the next generation compute continuum

Total budget: € 9 127 711

EU funding: € 9 127 711

ERCIM's role: Project partner

ERCIM members involved:

Inria

ERCIM/W3C contact:

Rigo Wenning

Scientific coordination:

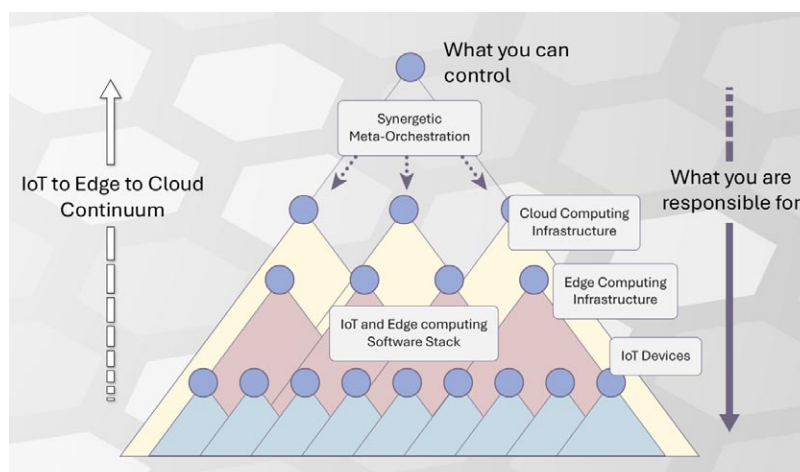
National Technical University of Athens
- NTUA, Greece

Duration:

September 2022 – September 2025

Website:

<https://nephele-project.eu/>



The NEPHELE architectural approach.

SmartEdge

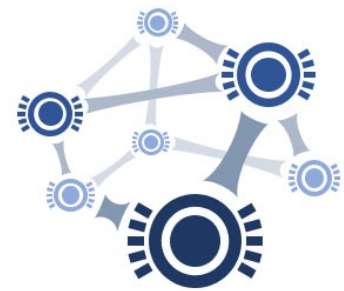
SmartEdge is a Horizon Europe research project developing a new generation of software tools for intelligent applications running across the device–edge–cloud continuum. Rather than programming heterogeneous IoT and edge infrastructures manually, SmartEdge enables developers to create distributed applications through semantic models and low-code programming techniques. The project combines semantic interoperability, edge AI, programmable networking and swarm intelligence to simplify the deployment and management of complex edge computing systems. The resulting platform has been validated in automotive, smart city, manufacturing and healthcare scenarios, demonstrating significant reductions in configuration effort and communication latency.

A central innovation of SmartEdge is its Continuous Semantic Integration (CSI) framework, which provides semantic descriptions, knowledge graphs and standardised interfaces that enable heterogeneous devices and services to interoperate seamlessly. Combined with low-code orchestration and semantic "recipes", the platform automatically deploys applications across distributed edge infrastructures while hiding the underlying technological complexity from developers. The project demonstrated reductions of up to 70–90% in application configuration effort together with substantial improvements in runtime performance and scalability.

ERCIM contributed its expertise in semantic web technologies and the W3C Web of Things. It participated in the development of semantic models, Thing Descriptions, knowledge graph technologies and semantic application orchestration, enabling interoperable edge applications that can be deployed across heterogeneous IoT environments. As the European partner of W3C, ERCIM also ensured that SmartEdge technologies build upon international Web standards, strengthening interoperability and facilitating the wider adoption of semantic technologies for edge computing.



SmartEdge co-organised the Swarm Workshop 2025 on 26–27 November 2025 in Brussels. The workshop presented the progress made by the European Swarm Computing Cluster projects. Over 120 experts from academia, industry and the European Commission attended this workshop to discuss the future of decentralised intelligence and autonomous systems.



SmartEdge – Semantic Low-code Programming Tools for Edge Intelligence

Total budget: € 7 353 640

EU funding: € 7 353 640

ERCIM's role:
Project partner

ERCIM/W3C contact:
Rigo Wenning

Coordinator:
Consorzio Nazionale Interuniversitario per le Telecomunicazioni (CNIT)

ERCIM members involved:
Fraunhofer-Gesellschaft

Duration:
January 2023 – March 2026

Website:
<https://www.smart-edge.eu/>

Empowering People

Human capital is central to every research organisation. Within ERCIM, the focus is on strengthening collaboration among member institutes while respecting their individual human capital policies. To achieve this, ERCIM currently builds on two key initiatives.

The first is the ERCIM Postdoctoral Fellowship Programme, established in 1991. The programme enables young researchers to join research teams at ERCIM member institutes through postdoctoral fellowships. In addition to providing mobility opportunities within leading research environments, it helps participants gain a deeper understanding of the European research landscape and supports their professional development.

The second is the Cor Baayen Early Career Researcher Award, which recognises the achievements of outstanding early-career researchers from European teams in informatics and mathematics.

While both initiatives offer significant opportunities for further development, ERCIM also aims to establish new mobility schemes across its member institutes. In particular, beyond postdoctoral researchers, we seek to foster mobility for PhD candidates, engineers, and professionals in management and administration.

ERCIM's Human Capital Task Group oversees these activities and develops proposals for new initiatives and future directions.

Participants of the Task Group in 2025:

- Monica Divitini, NTNU (Chair)
- Akira Campbell, Inria
- Magdalini Chatzaki, FORTH-ICS
- Decebal Constantin Mocanu, University of Luxembourg/FNR
- Adriana Lazzaroni, CNR
- Emma Lière, ERCIM Office
- László Monostori, SZTAKI
- Andreia Passos, INESC TEC
- Mónica Pinto, ITIS UMA
- Bettina Touré, Fraunhofer-Gesellschaft
- Edgar Weippl, SBA Research
- Leon van der Torre, FNR.



*Monica Divitini,
Chair of the
ERCIM Human
Capital Task
Group.*

People & Careers portal on the ERCIM website:
<https://www.ercim.eu/people-careers>

Alain Bensoussan Fellowship Programme

The ERCIM Postdoctoral Fellowship Programme is one of ERCIM's flagship activities. Established in 1991, it has supported more than 800 fellows over the course of its history. In 2025, eleven researchers started an ERCIM Postdoctoral Fellowship, and a total of 21 fellows were hosted during the year, representing 139 person-months.



The programme is open to outstanding early-career researchers from around the world and covers a broad range of topics in computer science and applied mathematics. By supporting mobility between ERCIM member institutes, it enables fellows to work in leading European research environments, broaden their scientific expertise, and develop international research networks. The programme also helps participants gain a deeper understanding of the European research landscape and strengthens collaboration across the ERCIM community.

In 2025, many of the hosted fellows came from countries outside the European Union, illustrating ERCIM's ability to attract excellent international talent to Europe in the fields of computer science and applied mathematics.

Fellowships are awarded for an initial period of 12 months, with the possibility of an extension. Fellows may also apply to spend a second year at a different ERCIM member institute, further promoting mobility and collaboration within the ERCIM network.

Since 2005, the Fellowship Programme has borne the name of Alain Bensoussan, former President of Inria and one of the founders of ERCIM. Calls for applications are published twice a year. Full information on eligibility, application procedures and deadlines is available on the ERCIM Fellowship Programme website.

ERCIM Fellowship Programme website:
<http://fellowship.ercim.eu>

“

My experience with the ERCIM Fellowship Programme has been transformative. It provided the invaluable opportunity to collaborate with top researchers, enhance my skills, and expand my professional network in an international setting. The programme advanced my expertise in AI and robotics while also developing non-scientific skills like language proficiency and intercultural communication. Engaging in cutting-edge research and meaningful projects has been immensely rewarding. I highly recommend the ERCIM Fellowship to anyone seeking to broaden their academic and professional horizons!



Akshara PANDE
Former ERCIM Fellow



*Testimonial from Akshara Pande,
former fellow hosted by NTNU.*

Miriam Santos, Assistant Professor at the University of Porto, has been awarded the 2025 Cor Baayen Early Career Researcher Award.



2025 Cor Baayen Early Career Researcher Award

Recognising Excellence in Emerging Talent

The Cor Baayen Early Career Researcher Award is a prestigious annual prize recognising outstanding early-career researchers in computer science and applied mathematics. Established in 1995 and named after ERCIM's first President, the award honours scientific excellence and future potential through a rigorous selection process. With a prize of € 5 000, it is one of Europe's most respected distinctions for emerging research talent.

The 2025 Cor Baayen Early Career Researcher Award was presented to Miriam Santos, Assistant Professor at the University of Porto and researcher at INESC TEC, in recognition of her outstanding contributions to data quality and ethical artificial intelligence.

Miriam Santos' research addresses fundamental challenges in machine learning arising from imperfect data, including imbalanced and missing datasets. Her work develops methods to identify, characterise and mitigate sources of bias and unfairness, helping to improve the fairness, robustness and trustworthiness of AI systems. Her contributions have advanced the technical foundations of ethical AI and have been recognised through publications in leading international journals and conferences, as well as collaborations with research groups in Europe, the United States and Brazil.

Beyond her scientific achievements, Miriam Santos is strongly committed to promoting diversity and digital inclusion. She founded As Raparigas do Código, a non-profit initiative that encourages girls and women to pursue programming and careers in information technology. She is also an active advocate for AI literacy and regularly contributes to outreach activities aimed at the wider public.

The award attracted an excellent field of candidates. The finalists were Daniel Castro (INESC TEC), Luca Ciampi (CNR), Evangelia Gogoulou (RISE), Othmane Marfoq (Inria), Grzegorz Pierczyński (University of Warsaw), Maja Szlenk (University of Warsaw), Chang Sun (CWI), Serena Tardelli (CNR), and Emilie Yu (Inria).

The Selection Committee comprised Gabriel David (INESC TEC), Monica Divitini (NTNU, Chair of the ERCIM Human Capital Task Group), Georgia Kapitsaki (University of Cyprus), Bruno Lévy (Inria), Kostas Magoutis (FORTH-ICS), and Fabrizio Sebastiani (CNR-ISTI). The decision was unanimous.

ERCIM Cor Baayen Early Career Researcher Award webpage:
<https://www.ercim.eu/people-careers/cor-baayen-award>

Outreach

The ERCIM Outreach Task Group is responsible for ERCIM's communication and outreach activities. These include the publication of ERCIM News, the maintenance of the ERCIM website, the publication of strategic reports, and the support and organisation of scientific events. Through these activities, ERCIM communicates its work to the research community, funding organisations, industry, and other stakeholders.

ERCIM News

ERCIM News, produced under the guidance of its Editorial Board, continues to be one of ERCIM's flagship publications. It has made a significant contribution to ERCIM's visibility within the international research community while showcasing the expertise and collaborative spirit of the ERCIM member institutes.

Strategic Reports

Strategic reports are another important component of ERCIM's outreach activities. They bring together the expertise of researchers from across the ERCIM network to address emerging scientific and technological challenges and to contribute to European research and innovation policy. In 2025, ERCIM published five strategic reports, including the position paper *The Importance of Software in Europe* and four reports resulting from the ERCIM–JST workshop, covering trustworthy human–machine collaboration, actionable knowledge under uncertainty, trust in research infrastructures, and resilient infrastructures and services for smart society.

EOSC and GAIA-X

ERCIM continued to facilitate information exchange among its member institutes on the European Open Science Cloud (EOSC) and GAIA-X. By sharing information on ongoing activities and identifying common interests, ERCIM supports collaboration and helps strengthen its members' engagement in these strategic European initiatives.



*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 cutting-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' aimed at reporting on joint activities was one of the first 'joint actions'. ERCIM rapidly evolved from an internal publication to a magazine covering reports and news about scientific projects from all over Europe and even beyond.

Today, ERCIM News is published in print and online. In 2025 the printed edition had a circulation of 1 000 copies and more than 8 600 readers are subscribed to the online edition.

From the outset, 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 2025 ERCIM News published the issues Nos. 140 to 142. Since its creation, more than 2 000 articles have been published. The popularity of ERCIM News can be credited primarily to our authors, to whom the ERCIM Editorial Board wants to express its warmest thanks and appreciation on this occasion.

In 2025 ERCIM News issues covered the following special themes:

- ERCIM News 140: Large-Scale Data Analytics
- ERCIM News 141: AI for Cultural Heritage
- ERCIM News 142: Inclusive Digital Futures.

ERCIM News website:
<https://ercim-news.ercim.eu>

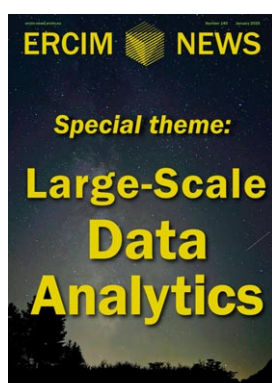
Members of the ERCIM News Editorial Board (2025)

Central editor:

- Peter Kunz, ERCIM Office

Local editors:

- Ferran Argelaguet, Inria, France
- András Benczúr, SZTAKI, Hungary
- José Borbinha, Technical University of Lisbon, Portugal
- Monica Divitini, NTNU, Norway
- Marie-Claire Forgue, W3C
- Lida Harami, FORTH-ICS, Greece
- Athanasios Kalogeras, ISI, Greece
- Georgia Kapitsaki, UCY, Cyprus
- Annette Kik, CWI, The Netherlands
- Alexander Nouak, Fraunhofer-Gesellschaft, Germany
- Laura Panizio, University of Málaga, Spain
- Erwin Schoitsch, AIT Austrian Institute of Technology GmbH/SBA, Austria
- Thomas Tamisier, LIST, Luxembourg
- Maurice ter Beek, CNR-ISTI, Italy



The issues published in 2025.

Strategic Reports

ERCIM's Strategic Reports provide expert analyses and recommendations on topics of strategic importance for European research and innovation. Drawing on the expertise of researchers from across the ERCIM network and its international partners, they contribute to discussions on emerging technologies, research priorities, and policy developments, while highlighting areas where Europe can strengthen its scientific and technological leadership.

In 2025, ERCIM published five Strategic Reports. The position paper "The Importance of Software in Europe" emphasises the fundamental role of software in Europe's economic prosperity, competitiveness and digital sovereignty, and calls for greater recognition of software as a strategic asset.

The other four reports present the outcomes of the 2024 ERCIM-JST Workshop, jointly organised with the Japan Science and Technology Agency (JST). They address key challenges in trustworthy human-machine collaboration, extracting actionable knowledge under uncertainty, trustworthiness and trust in research infrastructures, and resilient infrastructures and services for a smart society. Together, these reports reflect the shared commitment of the European and Japanese research communities to addressing future scientific and societal challenges through international collaboration.

All Strategic Reports are freely available on the ERCIM website.

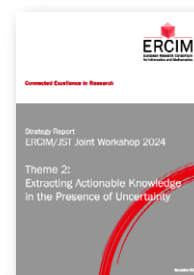
ERCIM Strategic Reports repository:

<https://www.ercim.eu/publications/strategic-reports>

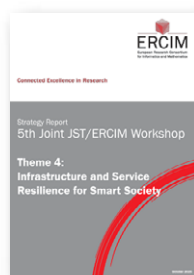
Strengthening Europe's software ecosystem to drive competitiveness and digital sovereignty.



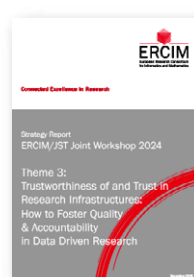
Building trustworthy AI that collaborates naturally with people.



Transforming uncertain data into actionable knowledge.



Building resilient infrastructures for a smart society



Strengthening trust in research through trustworthy infrastructures.

STRATEGIC
REPORTS
2025



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