

WAITRO



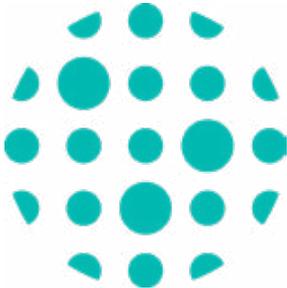
WORLD
ASSOCIATION of
INDUSTRIAL &
TECHNOLOGICAL
RESEARCH
ORGANIZATIONS

ANNUAL REPORT

2019



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1

INTRODUCTION

INTRODUCTION

Letter from the Secretary General Dr. Eckart Bierdümpe

Dear members and friends of WAITRO,

2019 brought with it a lot of changes for WAITRO. As happens every two years, at the General Assembly, a new Executive Board was elected by the members. I am proud that we have Princess Sumaya bint El Hassan as President of WAITRO and I am sure that she will continue to represent WAITRO perfectly at all occasions. Rubén Darío Cruz Rodríguez from Colombia and David Tveit from Denmark as first and second Vice-President, respectively, served beforehand on the Board as representatives for their regions, so they bring along quite some experience with WAITRO. Two Regional Representatives (Bahadır Tunaboylu for the MENA region and Ndimiso Cingo for Africa) had been on the Board already during the previous term, while we have three new members on the Board (Dirk Saseita Krug from Europe, Ahmad Fadzil Mohamad Hani for Asia & the Pacific and Randall Loaiza for Latin America & the Caribbean). In my opinion this is a good mix of experienced and new members on the Board.

For the daily work of WAITRO there has been a big change. After 16 years of continuing and tireless work as Secretary General first by Goay Peck Sim and then for a long period by Rohani Hashim and her team at SIRIM, I took over in January 2019. Thanks a lot to SIRIM and Malaysia for taking care of WAITRO for 16 years – the longest period of any WAITRO Secretariat!

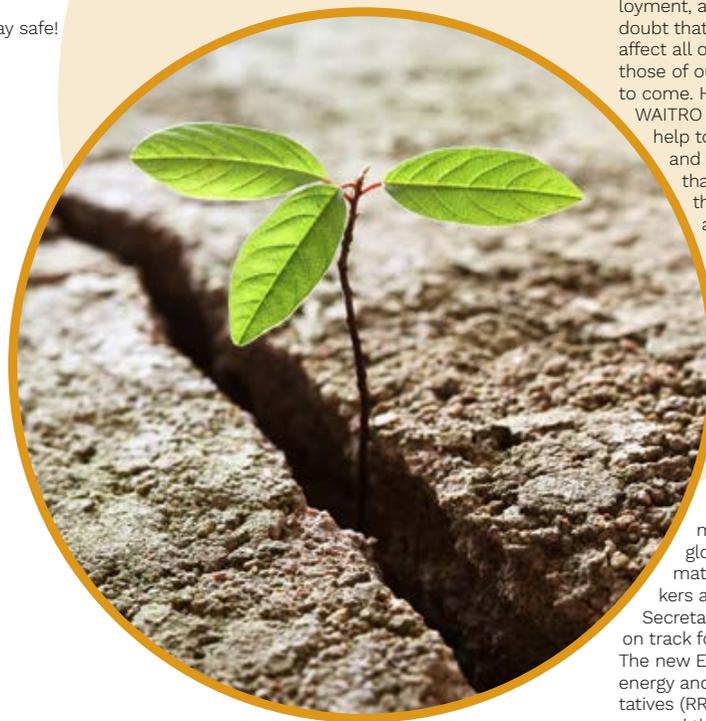
Now we do have a completely new situation with two offices: in Germany at Fraunhofer (headed by Dominik Reinertz) and in China at JITRI (headed by Paul Burrows). On the one hand we are trying to continue SIRIM's successful work and on the other hand we are introducing some new services for WAITRO members and refreshing existing ones with the financial support of the German and Chinese governments.

In this Annual Report you see some of the work, which started at the beginning of 2019 and which, of course, isn't finished yet. In spite of being an active member of WAITRO for quite a while, only after taking over did we realize how much work is involved, mostly behind the scenes, to make WAITRO work

like it does. I would like to thank the WAITRO Secretariat at both offices in China and Germany for their great work. A special thank you goes to Dominik Reinertz, Paul Burrows, Anna Wohlrab and Yao Xin, who have provided me with great support in this new undertaking and who have enabled the Association to achieve so much in just one year.

Together, we will continue to offer more and improved services to our members and will try to further improve existing ones. At the time of writing, we are experiencing challenging times – unprecedented in the previous decades. But I am optimistic that in spite of all the new challenges ahead of us, we will be able to continue to make WAITRO even more attractive and relevant for our members.

Stay safe!



Letter from the President Her Royal Highness Princess Sumaya bint El Hassan

It is a great honour for me to welcome you all to this first ever WAITRO Annual Report and to pledge myself as a president who wishes to serve you through the ethos and vision of WAITRO. Our organisation has grown strongly and steadily to become a rare and much-needed force for diversity, inclusion and the support of sustainable development in all our member communities around the globe. We cherish that diversity, and we commit to our mission to facilitate meaningful research through innovative collaboration. We aim to make this an accessible ambition for all our members.

I write this message at a time when we all face together the challenges posed by the Covid-19 pandemic. We are assessing the impact of that crisis, and attempting to anticipate its effects on economic growth, employment, and the environment. There is little doubt that the ramifications will continue to affect all our economic lives, and particularly those of our young people, for many years to come. However, I believe that through our WAITRO initiatives and networks, we may help to seek ways to resuscitate markets and build a post-Covid-19 economy that works for all in our world. I hope that we can redouble our efforts and strive with strength and determination to form new collaborations and to support durable and equitable development and the Sustainable Development Goals. I hope that beyond the difficulties to come, we may envisage a stronger, healthier and more peaceful global society, with a deeper appreciation of our extreme interconnectedness.

Our human family has shown itself to be astoundingly resilient, innovative and loyal to our communities – at local, national and global levels. At WAITRO, we have matched and surpassed those markers as the Executive Board and the Secretariat have kept us connected and on track for growth and collaboration. The new Executive Board, thanks to the energy and drive of our regional representatives (RR) and the Secretary General, has ensured that WAITRO is well-positioned to adapt to current challenges and to apply

our vision to changing circumstances. The innovative partnership between Fraunhofer-Gesellschaft in Germany, and the Jiangsu Industrial Technology Research Institute (JITRI) in China, has resulted in a secretariat that is well-placed to serve the needs of members around the world. They build on the commitment and achievements of SIRIM Berhad Malaysia who helped to steer our organization for 16 years.

There could be no better time to launch the reimagined WAITRO Innovation Ecosystem, where five key components combine to facilitate our mission: SAIRA, Capacity Development, The WAITRO Innovation Award, The WAITRO Fellowship and the biennial Innovation Summit. This multi-faceted structure has evolved out of many years of WAITRO experience, and much innovative thought in recent months, so that talent within our WAITRO may be captured and nurtured. It is an ecosystem that may flourish virtually and will empower diversity.

At a time when voices from the United Nations family of organisations, the global science community, and environmental, social and economic think tanks are calling for urgent debate so that our global, post-pandemic recovery may focus on green jobs, clean energy, natural infrastructure and an empowerment of the global commons, WAITRO's voice has never been more needed. Now is our chance to help make a clean break with old practices and to embrace an innovative clean future.

Of course, we must not neglect the jobs that might be lost in those industries that face real challenges today. But if investments are being made, and funding provided, then should we not focus on creating new jobs that help our world, rather than maintaining a status quo that was driving us all towards climatic and economic disaster? Our vision at WAITRO has long recognised that human health and natural landscapes can be helped through focused research and the development of good technology. As we anticipate challenges to an economic system that has not worked for many in our world, let us help pave the way for a newer world that is fairer, greener and more optimistic than we have known for generations.

2

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

In January 2019, after a record, 16-year term stretching from 2003-2019, SIRIM Berhad passed responsibility for the WAITRO Secretariat on to a partnership between Fraunhofer-Gesellschaft in Sankt Augustin, Germany, and the Jiangsu Industrial Technology Research Institute (JITRI) in Nanjing, China. Sir Isaac Newton famously acknowledged his predecessors, saying that if he had seen further than others, it was only by standing on the shoulders of giants. Similarly, the new Secretariat can only build on the foundations laid by SIRIM Berhad and all the other builders of WAITRO that have led WAITRO through the past nearly 50 years. We thank them all for their contributions.

This report, which will become an annual publication, is just one of the changes introduced by the new Secretariat in order to build on this foundation. The new Executive Board, responsible for piloting WAITRO according to its constitution and consisting of Regional Representatives (RR) is introduced below. This is followed by the leaders of the various Regional Focal Points (RPFs). These important positions are extensions of the Secretariat into the local regions, designed to work closely with the membership, and should serve as a first point of contact to connect with WAITRO. Please get to know your respective RFP and use them to communicate needs and news, especially via the newly redesigned, regularly published, online WAITRO newsletter.

The rest of this report describes the changes, additions and (hopefully) improvements that have been implemented in 2019. One of the first challenges was to overhaul the membership category and fee structure, which had not been updated since 1970. A plan, now under development, will put by the Executive Board to the membership for approval at the next General Assembly. Many of the Association's offerings have been integrated into the newly-

branded WAITRO Innovation Ecosystem with SAIRA, Capacity Development and a biennial Innovation Summit designed to optimize the flow of ideas from WAITRO's unique, cross-border partnerships into practical, technological contributions to the sustainable development goals.

Strategic partnerships and alliances are discussed, both new and renewed or updated. More traditional-style workshops are still supported, both in WAITRO's traditional strength of RTO management and best practices but also covering education in new and emerging technologies and opportunities in that most critical element of cross-border cooperation: funding!

As always, we aim for constant improvement to optimize value for the membership, so please freely give feedback about the content and style of this new Annual Report, either directly to the Secretariat or via our Regional Focal Point.



3 STRUCTURE

STRUCTURE

New Secretariat

In 2018, the Fraunhofer- Gesellschaft in Sankt Augustin, Germany and the Jiangsu Industrial Technology Research Institute (JITRI) in Nanjing, China were appointed to co-host the new international WAITRO Secretariat for a term of four years. Since January 1st 2019, both Offices of the Secretariat have been under the overall leadership of the new Secretary General, Dr. Eckart Bierdümpel.



Secretary General Dr. Eckart Bierdümpel

Dr. Eckart Bierdümpel was appointed as the WAITRO Secretary General by the General Assembly in November 2018. In this role as the chief operating officer of the Association, he manages the WAITRO Offices in Germany and China. Dr. Bierdümpel has a long history with the Global Innovation Family. In his previous positions as First and Second Vice President, he has been an active ally for WAITRO since the early 2000s. Using his expertise and deep knowledge about WAITRO and the world of science and technology, Dr. Bierdümpel is dedicated to lifting the organization up to the next level.



WAITRO Office Germany
Dominik Reinertz

As Head of WAITRO Office Germany and one of the founders of SAIRA, Dominik is responsible for the development and execution of WAITRO's strategy to scale up its outreach. He has been actively engaged in WAITRO activities since 2015 and is very familiar with the huge potential of WAITRO's global network. From developing strategies and work programs to building SAIRA from scratch, Dominik has put immense efforts into contributing to WAITRO success. Today, he plays a key role in continuing to lead the Global Innovation Family along the path of close collaboration for a sustainable future.



WAITRO Office China
Dr. Paul E. Burrows

As Head of the WAITRO Office China, Dr. Paul Burrows has over 30 years of working experience at top universities, RTOs, and corporations, including two startups, spanning multiple countries in Europe, America and Asia, with an extensive range of global network resources. He is the Vice President for Overseas Cooperation at JITRI, the Jiangsu Industrial Technology Research Institute, which hosts and supports the WAITRO Office, China. He is mainly responsible for strategy development, as well as coordinating resources and providing support on behalf of JITRI.

Anna Wohlrab

As Program Officer, Anna provides support in running the WAITRO Office in Germany and co-leads SAIRA – The Open Innovation Hub for Sustainable Development and is the main contact point for the Regional Focal Points. She has been a part of the Global Innovation Family since April 2018 and has already experienced the organization's reach personally in many WAITRO programs and events. From helping build SAIRA and the WAITRO Website, to recruiting and reactivating WAITRO members, she holds a broad variety of responsibilities within the organization and is committed to supporting the Association in fulfilling its mission.



Xin Yao

As the Director of the WAITRO Office China, Xin Yao is responsible for strategy execution, especially for capacity development program, space construction for WAITRO members, and regular contact with WAITRO Office Germany. She has accumulated a lot of experience within the Association from organizing WAITRO International Conferences, co-organizing WAITRO training programs, and participating in many WAITRO events since 2017, she is dedicated to WAITRO and supporting the Association's efforts wherever she can.

New Executive Board

The WAITRO Board consists of the President, the first and the second Vice President and includes Representatives from the five world regions: Asia and the Pacific, Middle East and North Africa, Latin America and the Caribbean, Africa and Europe. With knowledge and consideration of their respective regions and in communication with the Regional Focal Points (see below) the Regional Representatives govern the Association along with the President and the two Vice Presidents.

President

Her Royal Highness Princess Sumaya bint El Hassan

HRH Princess Sumaya bint El Hassan is a leading advocate for science as a catalyst for change. She is a dedicated science enabler in the Arab World, where many challenges urgently need science-based solutions. The Princess has worked for more than a decade to help foster an environment in which home-grown solutions may be found for pressing issues facing Jordan and the region. HRH is President of the Royal Scientific Society (RSS), Chair of the Princess Sumaya University for Technology (PSUT), and Vice-Chair of the Jordan Museum. In June 2017, the Director-General of UNESCO appointed HRH as UNESCO Special Envoy for Science for Peace. This unique honor recognizes HRH's efforts to combine science and research with cultural heritage to foster peace, opportunity and prosperity. Princess Sumaya was Chair of the World Science Forum 2017, which was held in Jordan under the theme of 'Science for Peace'. In 2018 HRH was elected as Chair of the Board of Governors of the UN-ESCWA Technology Center, which is based on the RSS campus. The RSS has been an active and committed member of WAITRO since the 1980s. HRH Princess Sumaya was elected as a member of the WAITRO Executive Board in 2013, and as WAITRO President in 2018 for the 2019-2020 term..



First Vice President

Dr. Rubén Dario Cruz Rodríguez

Dr. Rubén Cruz is the Director of Innovation Support at CIDET. He has served WAITRO as Regional Focal Point for Latin America and the Caribbean from 2013-2014 as well as Regional Representative from 2015-2018. Rubén has been actively engaged in WAITRO activities and spreading the word about the Association in his region and beyond. Throughout his diverse career in research, teaching and management, Rubén has put his focus on the planning, management, monitoring and regulation of energy markets, as well as the use of science, technology and innovation to create shared prosperity. In his role as Vice-President, Rubén is committed to strengthening WAITRO through collaboration, collective action and joint engagement.

Second Vice President

David Tveit

David Tveit is Executive Vice President at the Danish Technological Institute (DTI). He is responsible for the Institute's direction and strategy, international relations and government liaison, plus DTI's participation in major research and development programs. David has been a board member of WAITRO since 2012 and is now Second Vice-President. Before being appointed as the Second Vice President, David was the Regional Representative for Europe. He has been actively involved in many WAITRO projects and is currently the DTI representative in an international Benchmark Study, which since 2013 has gathered statistics annually and meets to discuss best practices for RTOs.

Regional Representative Asia and the Pacific
Prof. Ir. Dr. Ahmad Fadzil Mohamad Hani

Prof. Ahmad Fadzil was appointed as the President and Group Chief Executive of SIRIM Berhad, Malaysia in April 2017. For WAITRO, he has been Regional Representative (RR) for Asia and the Pacific since 2019.

Prof. Fadzil was a Senior Professor at the Universiti Teknologi Petronas for Engineering. He was appointed as the General Manager in Frontier Technology at Petronas Research (2008-2010) and elected as a Fellow of the Academy of Sciences Malaysia. Mr. Fadzil was appointed by the Board of Engineers of Malaysia to serve in the Engineering Accreditation Council and helped steer Malaysia towards the Washington Accord status.

In his function as a WAITRO RR, he wants to strengthen the capacity of WAITRO member organizations in his region as well as sharing knowledge and experiences and encourage collaboration among member organizations.



Regional Representative Middle East and North Africa

Dr. Bahadir Tunaboylu

Dr. Bahadir Tunaboylu has been a Board Member of WAITRO representing the Middle East and North Africa. He has experience in various institutions from US Silicon Valley companies to TUBITAK, governmental technology advisory boards and Istanbul Sehir University to drive strategic plan formulation to benefit all members. Bahadir strives to align the UN Sustainable Development Goals with science and technology capacity development needs of member countries. He also helps develop WAITRO intra- and inter-regional cooperation in the Middle East and North Africa since 2016. He uses his wide-ranging innovational collaborative programs to strengthen the Association on a global level. Closer collaboration between NGOs, research institutions, governments and creative individuals is a necessity especially in times of pandemics and global crisis for a better and safer world for future generations.

Regional Representative Europe
Dirk Saseta Krieg

Dirk Saseta Krieg was elected as Regional Representative for Europe in 2019. He is dedicated to implementing WAITRO's mission and achieving the Association's objectives in order to accomplish WAITRO's vision.

Dirk is also a member of the Executive Board of Leitac acting as Director of the Projects Division. He has been with Leitac since 2009 as Project Manager in the environmental technologies and renewable energies sector. In 2013 he was named Director for International Affairs.

Additionally, he is Leitac's acting representative in the European Association of RTOs (EARTO). Dirk has completed a broad variety of courses in ISO quality and environmental audits and in project management. He has been a professor, lecturer and speaker in many courses and programs in project management and EU proposal writing.



Regional Representative Sub-Saharan Africa
Ndumiso Cingo

Dr. Ndumiso Cingo has been serving WAITRO as Regional Representative (RR) for Sub-Saharan Africa since 2016. Ndumiso has been involved in a broad variety of WAITRO programs. He has been the Innovation Manager in the CSIR Research and Development Office since 2014. Prior to joining the CSIR, he held academic positions in Chemistry at the Tshwane University of Technology (2006-2008) and the University of South Africa (2001-2006). Ndumiso is the former Chairperson of the Photonics Initiative of South Africa and the South African Nanotechnology Initiative. He was a member of the Steering Committee of the International Year of Light Initiative (2012-2015), which successfully lobbied the UNESCO to declare 2015 the International Year of Light.

Regional Representative Latin America and the Caribbean

Dr. Randall Loaiza

Dr. Randall Loaiza is the WAITRO Regional Representative for the Latin American and Caribbean region. He currently serves as the Director at CeNAT (Centro Nacional de Alta Tecnología) in Costa Rica. He is committed towards strengthening the presence of WAITRO in his region and to help fulfil the association's objectives.



Regional Focal Points

Regional Focal Points (RFPs) are active member organizations of WAITRO in each of the five regions. RFPs in Spain, Thailand, Nigeria, Egypt and Colombia act as liaison offices to support the WAITRO Secretariat and to promote WAITRO and SAIRA in the respective regions. RFPs help identify and cultivate relationships to support and strengthen WAITRO's network. All Regional Focal Points are active advocates and ambassadors for the values, mission and vision of the association.

Asia and the Pacific

Thailand Institute of Scientific and Technological Research (TISTR), Thailand



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Dr. Chutima Eamchotchawalit

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Pimprapai Supornrat

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Established:
1963

Headquarters:
Pathum Thani, Thailand

Website:
www.tistr.or.th



Established:
1989

Headquarters:
Medellin, Colombia

Website:
www.cta.org.co



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Europe

Leitat Technological Center, Spain



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Established:
1906

Headquarters:
Barcelona, Spain

Website:
www.leitat.org



Established:
1971

Headquarters:
Giza, Egypt

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Sub-Saharan Africa
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Headquarters:
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Website:
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4

NEW MEMBERSHIP SERVICES

NEW MEMBERSHIP SERVICES

Introducing the WAITRO Innovation Ecosystem

The WAITRO Innovation Ecosystem integrates WAITRO's main programs and services into a seamless offering that should provide benefits and opportunities to the membership. Every two years, the WAITRO Secretariat and Board will decide on a particular topic of global importance, on which to focus the Association's activities. The topic for the term 2019-2020 was chosen to be water. The main components of the ecosystem are:

SAIRA

SAIRA was launched on January 20th 2019. SAIRA is WAITRO's Open Innovation Hub that forms the roots of the WAITRO Innovation Ecosystem. SAIRA was developed to facilitate the initiation of cooperation between WAITRO members. Using SAIRA, WAITRO members can upload project ideas and challenges to attract the right partner in order to implement a collaborative research project or jointly apply for funding. Already in 2019, 10 international research project teams were formed on SAIRA, amongst them several EU projects as well as a project on the internationalization of organizations. The impact of a system such as SAIRA will grow exponentially with the number of active users and the size of the WAITRO network, just like the impact of social networking hubs like Facebook and Twitter grew from curiosities to major international communications networks. The success of this initiative therefore critically depends on the membership using it, publicizing it, and growing it.

WAITRO Global Innovation Award

The Innovation Award was reestablished into the WAITRO Innovation Ecosystem with a new focus as the "fruit" of the WAITRO Innovation Ecosystem. The idea of the Innovation Award is to encourage and reward the best partnerships formed between WAITRO members, and also to encourage the use of SAIRA, thereby helping it to scale. From October 2019 until May 31st 2020 WAITRO members were encouraged to upload their water-related challenges on SAIRA or apply to Challenges already posted by other members to form project teams that could ultimately apply for the Innovation Award on the WAITRO Intranet. The Secretariat allocated 50,000 USD to be shared by two winning teams. A scientific advisory board was formed to evaluate the proposals, chaired by Will Sarni (add key bio elements here). A round of interviews will be conducted by the Scientific Advisory Board who will choose the finalists that the WAITRO Secretariat will invite to the Global Innovation Summit to pitch their idea, after which the audience of WAITRO members will be able to vote for two winning project teams that will be awarded 25,000 USD each to fund early-stage development of their project.

Capacity Development

The new Secretariat continues to uphold WAITRO's Capacity Development as an integral part of the Association's work. In July, 2019 the Secretariat held a strategic workshop for the newly elected Regional Focal Points (RFPs) as well as the Board.



During that workshop a needs assessment survey was developed that was later on shared by the RFPs in their perspective region. The RFPs evaluated the results during the Board and RFP Meeting in Botswana in November 2019. Based on the results of the evaluation, the RFPs, together with the Board, decided that the topic for the 2020 Capacity Development Workshops will be: Strengthening international collaborations within the HORIZON framework. There will be one workshop for novices and one workshop for advanced proposal writers.

In addition to subject-specific training in response to members' needs, the new Secretariat will continue to expand the Capacity Development Program by developing a new concept in which parts of the Program serve as nutrients to grow the WAITRO Innovation Ecosystem. Chosen project teams formed using SAIRA, in the focus area chosen by the Board, will get to attend project-specific workshops during 2020 that will help them develop their projects, manage intellectual property and, finally, develop a pitch for funding, to be delivered to the membership and WAITRO partners at the biennial Innovation Summit.

WAITRO Innovation Summit

The WAITRO Global Innovation Summit is a newly conceived addition that we hope will become the flagship event of the Association. It will be held every two years in conjunction with the WAITRO General Assembly. The WAITRO Global Innovation Summit will always evolve around a focus topic chosen by the Executive Board to best engage and benefit the WAITRO membership; for 2019 and 2020 the focus area was chosen to be water. The first Global Innovation Summit was supposed to take place on December 8th and 9th 2020 in. Due to the outbreak of Covid-19 it had to be postponed to December 2021. It will take place at the International Convention Center in Pretoria, South Africa and will be co-hosted by the Council for Scientific and Industrial Research (CSIR) South Africa. The event will be open for the public and experts of all scientific fields to join and actively participate in the conference.

WAITRO Fellowship

The WAITRO Fellowship Program supports researchers and employees within the WAITRO community to conduct research or other work in a member organization in a different

country. The aim is to facilitate knowledge transfer and learn from RTOs around the world. The WAITRO Fellowships are open to researchers or technical staff of WAITRO member RTOs. WAITRO covers part of the cost of the Fellow's stay aboard for 6 to 12 months depending on the membership category of the Fellow's RTO. Depending on the Fellow's home organization as well as where they are intending to undergo their Fellowship, WAITRO will adapt its financial support accordingly. There will be at least one round of call for fellowship each year, and the goal is to eventually support 6 to 10 fellows each year. The first WAITRO Fellow has already been approved by the Secretariat, and we look forward to expanding the program as it matures.

Membership fees

For the first year of the new Secretariat, the membership fees were temporarily waived. The reason for this was so that the Board and Secretariat revised the membership fee structure. Since the birth of WAITRO, the subscription fee per annum has been based on the per capita income of the country in which the applicant organization is located, using data published by the World Bank. A membership fee audit by the new Secretariat revealed that the membership fee structures had not been updated according to the increase in GNI that most countries have experienced since 1970. The result of this is that, according to the WAITRO constitution, almost all members suddenly find themselves in the highest membership bracket.

During the Board Meeting in Botswana in November 2019 the Board, together with the Secretariat, decided to completely overhaul the membership fee structure to prevent a large increase in membership fees that the majority of members would otherwise experience. The Secretariat made a call for proposals for a new membership fee structure that members themselves are encouraged to submit before May 30th 2020. The Board will then discuss these proposals and decide on the best new membership fee structure for the long-term health of WAITRO and the best interests of all its members. The member whose proposed structure is chosen by the Board will be invited to the General Assembly (GA) to present their proposed new membership fee structure so that all members in good standing can vote on the new structure.

Marketing

At the direction of the new Executive Board, the WAITRO Secretariat initiated the modernization of the organization's corporate identity (CI). WAITRO now has a new CI that is however, inspired by its 50-year-old history. The new logo retains the shape of the globe to represent WAITRO's international identity. The longitude and latitude lines in the negative space are a subtle reference to WAITRO's previous logo, but the shape has been simplified and modernized through the addition of a grid of circles. The individual circles represent people all over the world, and the slightly larger circles represent groups of people coming together in collaboration and cooperation. Also, the globe can be seen like the way the earth looks from above and clusters of light, representing cities where people come together. As such, this creates an illuminated and 'alive' effect to the logo. The dynamism of the shape of the globe and the differing sizes of circles creates a mark that is visually interesting, while remaining streamlined and clear at any size.

The old and the new WAITRO logo:



WAITRO

New WAITRO Website

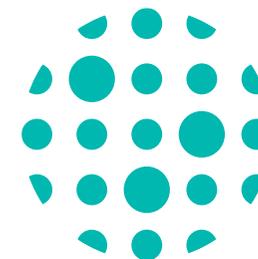
Based on the new Corporate Identity of WAITRO a new WAITRO Website was set up. You can find it here: www.waitro.org

Social Media

WAITRO recognizes the importance of being active on social media. Social networks like LinkedIn, Facebook or Twitter can play a crucial role in growing the WAITRO network. The new WAITRO Secretariat has therefore made an effort to increase WAITRO's activities on these platforms. WAITRO uses social media to highlight WAITRO's activities and achievements of WAITRO members, to make important announcements and to interact with important stakeholders outside the WAITRO network. Saira.eco was created as separate channels to promote projects on SAIRA. .

Intranet

WAITRO introduced a member only area on its website, where members can apply for WAITRO programs and download standard presentations and important information about the Association. Furthermore, the WAITRO Intranet includes a Fellowship Marketplace where researchers and staff at WAITRO member organizations can post their organization's profile or open Fellowship positions for researchers and staff at other WAITRO organizations to find and apply.

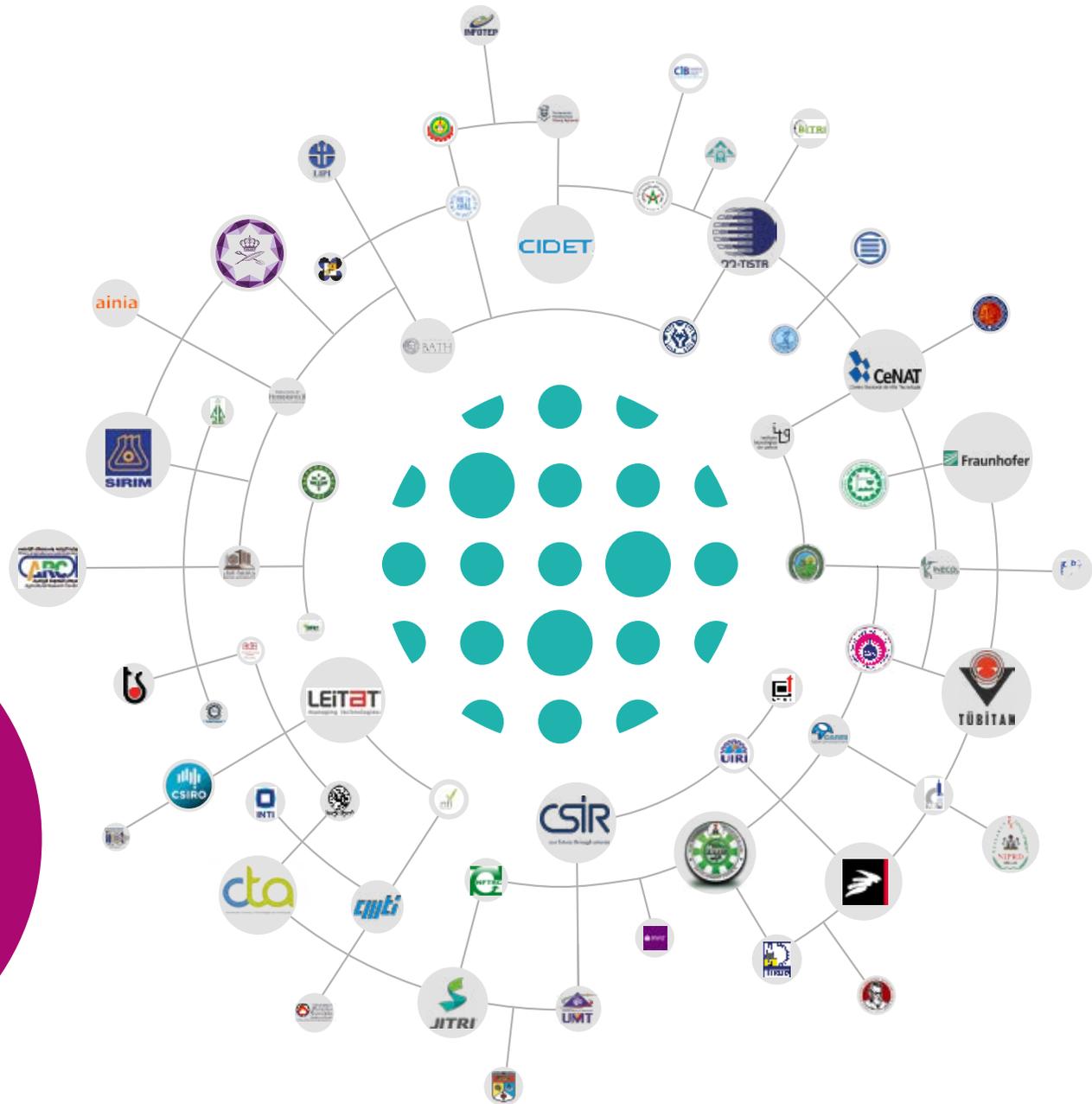


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5

MEMBERS

2019



6

STRATEGIC PARTNERSHIPS

STRATEGIC PARTNERSHIPS

Research Fairness Initiative

The WAITRO Secretariat has signed a co-operation agreement (RFI), a partnership quality improvement reporting system designed to assist all stakeholders in research to better understand their own partnership practices, operated by the Council on Health Research for Development (COHRED). The RFI aims to create a global learning system, which will identify standards of good practice and benchmarks for good and sustainable research partnerships. WAITRO and the RFI decided to collaborate in the following areas:

- Joint training programs and events,
- Exchange of materials,
- Promotion of each other.



Research Beeline

The WAITRO Secretariat and Research Beeline have signed a cooperation agreement. Research Beeline connects researchers in Africa to funding opportunities. Research Beeline provides a direct connection between grant-makers and researchers in Africa by providing a reliable and comprehensive flow of research funding information. WAITRO and Research Beeline decided to collaborate in the following areas:

- Exchange of materials,
- Promotion of each other.



7 ALLIANCES

ALLIANCES

UNIDO

WAITRO was founded under the auspices of UNIDO in 1970. Since then, WAITRO and UNIDO have repeatedly joined forces on projects or workshops. To maintain the good relationship, the new Secretary General of WAITRO, Dr. Eckart Bierdümpel visited the UNIDO headquarters in Vienna, Austria. He met with Bernardo Calzadilla-Sarmiento, Managing Director of Directorate of Digitalization, Technology and Agribusiness, Raymond Tavares, Industrial Development Officer, and Olga Memedovic, Deputy Director of the Department of Digitalization, Technology and Innovation of UNIDO. A strategic meeting was held on January 18th 2019. The meeting strengthened the WAITRO-UNIDO relationship and the commitment to close cooperation



- Department of Digitalization, Technology and Innovation invited a WAITRO speaker for World Technopolis Association Global Innovation Forum
- WAITRO/Fraunhofer representative Dr By-eungkwan Park attended the meeting as a panelist in session "Industry 4.0, Innovation and Investment"

Africa-Europe Innovation Partnership

Participating in a community of practice for technology transfer.



WAITRO is collaborating with the Africa-Europe Innovation Partnership (AEIP). The goal of the Africa-Europe Innovation Partnership is to create a community of practice in technology development and transfer across both continents to ultimately foster the development of sustainable business models. The WAITRO Secretariat, together with the AEIP community, are working to establish SAIRA as a major platform to enhance and facilitate the transfer of technologies that help achieve the SDGs. The AEIP is funded by the European Commission and was initiated by Dr. Christina Russo, Director for International Cooperation at the Directorate General for Research and Innovation in the European Commission. WAITRO and the AEIP are collaborating in the following areas

- Case studies on Open Innovation between Africa and Europe
- Active participation in events
- Promotion of each other

United Nations Commission on the Status of Women

Together with the Associated Country Women of the World, WAITRO signed statement to strengthen its efforts to end all kinds of discrimination against women.



WWF

In January 2019, JITRI, where WAITRO Office, China is located, signed a cooperative memorandum of understanding with the World Wide Fund for Nature (WWF). With water as one of several strategic foci at GGTC, staff there were instrumental in helping WAITRO assemble a high quality Scientific Advisory Board for the first Innovation Summit. Given WAITRO's focus on the United Nations goals for sustainable development, a closer partnership with international NGOs with as WWF will be pursued in the future.

8

ACTIVITIES

ACTIVITIES

Workshops

WAITRO-SIRIM Capacity Program

29 April - 4 May, 2019
Shah Alam, Selangor, Malaysia

A WAITRO-SIRIM Capacity Development Program was held from April 29th to May 4th, 2019 in Shah Alam, Malaysia. As part of this meeting, WAITRO and SIRIM organized capacity building programs on commercialization of research and innovations, the internet of things, technology applications for smart farming, solar thermal technology for industry applications, senior management in research technology organizations and women empowerment in personal care product development. With about 80 participants from 17 countries, the program was a huge success.



The week long program offered the following workshops:

Introduction of SAIRA

During WAITRO's Capacity Development Program in Shah Alam around 70 researchers and other staff from WAITRO member organizations participated in a SAIRA training session. Participants came from all over the world to acquire new skills in RTO management. SAIRA, as a tool to simplify international RTO collaborations, was a perfect fit. In an interactive hands-on session, participants learned how to use SAIRA effectively and connect with other RTOs, companies and start-ups to advance their global research activities.

Woman Empowerment in Personal Care Products Development

The objective of this program was to build the capacity of the participants as trainers and enhance their skills in homemade

personal care products development, which will lead to new opportunity and sustainable success of the rural based communities.

Workshop for Commercialization of Research and Innovation

This capacity building program will be an avenue for participants to strengthen the cooperation between all members by having more collaborations in research programs, as well as finding new opportunities for future R&D and commercialization.

Internet of Things Technology Application for Smart Farming

IoT is an intelligent interactivity between human and things to exchange information and knowledge for new value creation. In agriculture, monitoring environments for various factors are significant in order to increase productivity. In this program, the application of IoT covers agriculture, aquaculture and vertical farming application. This program focused on IoT technology applications for smart farming whereby all participants have been introduced to the sensor used in agriculture, read the sensor parameters using embedded microcontroller and nodemcu and published the parameter results on WEB and Mobile platform.



Solar Thermal Technology for Industrial Application

This workshop served to introduce new key concepts and practical application of energy efficiency audit, process and system optimization concept, solar thermal technology and system design, solar thermal system integration concept and financial analysis of solar thermal projects.

Senior Management Program in Managing RTOs

The program was aimed at enhancing the leadership capacity of participants to boost the performance of their organizations, which will lead to sustainable success.

WAITRO members involved: IROST (Iran), CIDET (Colombia), NFTRC, BITRI (Botswana), JITRI (China), FIIRO, NOTAP, FIRDI, RMRDC (Nigeria), LIPI (Indonesia), NFI, TISTR (Thailand), CSIR (South Africa), NERDC (Sri Lanka), UMT, FRI, SIRIM (Malaysia), RSS (Jordan), CARIRI (Trinidad and Tobago), CSIR, SARI (Ghana), KEMRI (Kenya), TUBITAK (Turkey), TIRDO (Tanzania), ITI (Sri Lanka)
 External participants: The program was supported by the Ministry of International Trade and Industry, Ministry of Energy, Science, Technology, Environment and Climate Change, Malaysia.



Horizon 2020 Workshop
 12 July, 2019 · Birlinghoven, Germany

This workshop was organized by the Regional Focal Point Europe, Leitiat, in cooperation with the Secretariat to provide a general overview on the opportunities that Horizon 2020 can bring for international cooperation and for WAITRO members. The workshop included 3 sessions to discuss three different topics:

1. LC-CLA-14-2020: Understanding climate-water - energy-food nexus and streamlining water-related policies;
2. CE-SFS-36-2020: Diversifying revenue in rural Africa through bio-based solutions; and
3. CE-SC5-25-2020: Understanding the transition to a circular economy and its implications on the environment, economy and society.

WAITRO members involved: ARC (Egypt), BITRI (Botswana), BNARI (Ghana), CIDET; CTA (Colombia), CSIR (South Africa), DTI (Denmark), FIIRO (Nigeria), Fraunhofer (Germany), Leitiat (Spain), RMRDC (Nigeria), RSS (Jordan), SIRIM (Malaysia), TISTR (Thailand), Tubitak (Turkey), University of Yaounde (Cameroon)



International Workshop on Intellectual Property Management and Technology Licensing

18 - 20 June, 2019 · Bangkok, Thailand

The workshop was organized jointly by the Asian and Pacific Centre for Transfer of Technology (APCTT) of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), Ministry of Higher Education, Science, Research and Innovation (MHESI) of Thailand, and WAITRO Regional Focal Point Thailand Institute of Scientific and Technological Research (TISTR). The workshop aimed to bring together policymakers and experts to deliberate on policy issues, challenges and opportunities that are critical in IP management and technology licensing for commercial exploitation. As the key organizer of the event, TISTR opened opportunities and called for WAITRO members to participate in the event.

WAITRO members involved: TISTR (Thailand), LIPI (Indonesia), NFI (Thailand)

Research and Innovation (MHESI) of Thailand, and the Department of Industrial Works (DIW). As the key organizer of the event, TISTR opened opportunities and called for WAITRO members to participate. The workshop facilitated knowledge exchange among Thai refinery and private inspection sectors on risk-based inspection and maintenance for industries. Good practices and guidelines on RBM and RBI for industries in the ASEAN community were shared.



WAITRO members involved: TISTR (Thailand), NFI (Thailand)



Getting ready for Horizon Europe
 26 - 27 June, 2019 · Leitiat Technological Center, Terrassa, Spain

This workshop was held for WAITRO members to be up to date and get ready for the transition from Horizon 2020 to Horizon Europe.

WAITRO members involved: Fraunhofer (Germany), Leitiat (Spain)

The Development of Capacities for the Formulation and Management of Research and Technological Development Projects in the SAIRA Open Innovation Platform
 12 December, 2019

This online workshop was organized by the Regional Focal Point Latin America and the Caribbean, CTA. The purpose of this workshop was to present SAIRA to the different RTOs in the region and explain the keys and good practices.

Training Workshop on 2nd Risk Based Maintenance for Competitiveness of ASEAN Industry

25 - 26 September, 2019 · Bangkok, Thailand

The workshop was organized by WAITRO RFP TISTR in cooperation and supportive by the Ministry of Higher Education, Science,

WAITRO members involved: INTI (Argentina), INFOTEP (Dominican Republic), CTA, CIB, CIDET (Colombia), INEEL, INECOL (Mexico), TTBS (Trinidad and Tobago), Fraunhofer (Germany)
External participants: University of Rio de Janeiro (Brasil)

Projects

Collaborative Research Project: Kick-off of project LEE-BED

22 January 2019

Headed by DTI, the consortium includes WAITRO member Fraunhofer (Germany). The aim of the project is to establish an innovation testbed for the development and production of printed nanomaterials for lightweight



electronics.

Collaborative Project: Innovation Project between CIDET and DTI

January 2019

A collaboration project to further the identification of and innovation within Columbian SME took off in January 2019. In the course of the project, ending in March 2020, Mr Hilding-Hamann from DTI has coached staff on topics such as how to engage and motivate SMEs to take on new technologies and embrace innovation.

Collaborative Research Project: Award of project AGROBOFOOD

1 June 2019

June 1 2019, the project 'agROBOfood: Business-Oriented Support to the European Robotics and Agri-food Sector' started. In the course of 48 months €4 million will be used to run the network of Digital Innovation Hubs

in Robotics and the remainder of €12 million will cascade out as funds through open calls to benefit industry. Among the partners you find Fraunhofer and DTI.

Collaborative Research Project: Award of project BUILD-IN-WOOD

1 September 2019

DTI welcomed 21 partners from 12 EU countries, among them Fraunhofer, to the kick-off meeting of the Build-in-Wood-project 1 September 2019. The EU BBI-project aims at developing sustainable and innovative value chains for building multi-storey wood buildings. The project will be running for four years.

Collaborative Project: Internet of Things Training between TISTR and JITRI

September 2019

In response to the needs of TISTR, the WAITRO Office, China organized a capacity training event on Internet of Things Testing. Researchers from TISTR took a 12-day training course at National Center of IoT Sensing Equipment Measurement and Testing of China, which is one of JITRI partners. The course included general instrumentation measurement, wireless communication testing, RFID testing and electromagnetic compatibility. This particular capacity training was designed to help to the construction of a Thai Internet of Things test service platform.



Collaborative Project: Exchange on 3D Printing Technology between CMRDI and JITRI

September 2019

In response to the collaboration demands raised by CMRDI on 3D printing technology, the WAITRO Office China organized a specific workshop for CMRDI with JITRI-affiliated research institutes in Nanjing, China. The director of the CMRDI 3D printing lab, Prof. Khalid Abd Elghany, had a fruitful communication and brainstorming sessions with three of the JITRI specialized institutes and they agreed to work together in future to set up joint ventures and to practice technology training.



Collaborative Research Project: Award of project RECYCALIZE

14 November 2019

The consortium headed by DTI and including WAITRO-member Fraunhofer was awarded the project that aims to disrupt the energy storage market through the use of novel and recyclable catalytic materials used in the most promising type of electrolyzers to date. The project will take off in April with a two-day kick-off partner meeting at DTI.

Collaborative Research Project: Award of project Biofuels

19 December 2019

This €1.8 million EU EMPIR project will optimize, over a period of 36 months, the energy production based on solid and liquid biofuels through more accurate and faster determination of parameters impacting the calorific values. The project will i.a. research metrological methods and establish advanced traceable measurement standards for the determination of the calorific value. Among the partners aside of the coordinator, DTI you find WAITRO-member TÜBITAK.

Collaborative Project: Innovation Advisory Service project between CARIRI and DTI

The knowledge sharing and training project with CARIRI that has been going on since 2017 continued in 2019 flooring a series of networking and awareness raising events on Innovation Advisory Services and ideation targeting industrial sectors and engineering students. In August 2020, it is expected that CARIRI will send two persons to visit the Inventor Advisory Service at DTI.



Collaborative Project: Exchange on Bio-Medicines, Smart Manufacturing and Renewable Energy between SIRIM and JITRI

September 2019

The workshop was jointly organized by SIRIM and JITRI. The SIRIM delegation's visit to JITRI led by Prof. Ir. Dr Ahmad Fadzil Bin Mohamad Hani, who is the WAITRO RR for Asia-Pacific Region. The purpose of the workshop was to share the experiences of technology commercialization and success stories in building and managing industry parks, and to discuss the potentials in promoting collaboration between SIRIM and JITRI. It is hoped that this interaction will be a model for further workshops with members to expand practical research cooperation, particularly involving those in the Asia-Pacific Region.

HORIZON proposals

Collaborative Research Project: LOOPP proposal

The LOOPP proposal was submitted for the CE-BIOTEC-05-2019 topic under the H2020-NMBP-TR-IND-2018-2020 call in which international cooperation was encouraged. The proposal was led by Leitat in collaboration with WAITRO partner DTI. The main goal of LOOPP was to develop a flexible platform using microorganisms for the biodegradation and valorization of a wide spectrum of recalcitrant plastic streams, from domestic to industrial waste, including aquatic waste. LOOPP focused mostly on Europe and China, although consortium members could obtain waste from many other places around the globe.

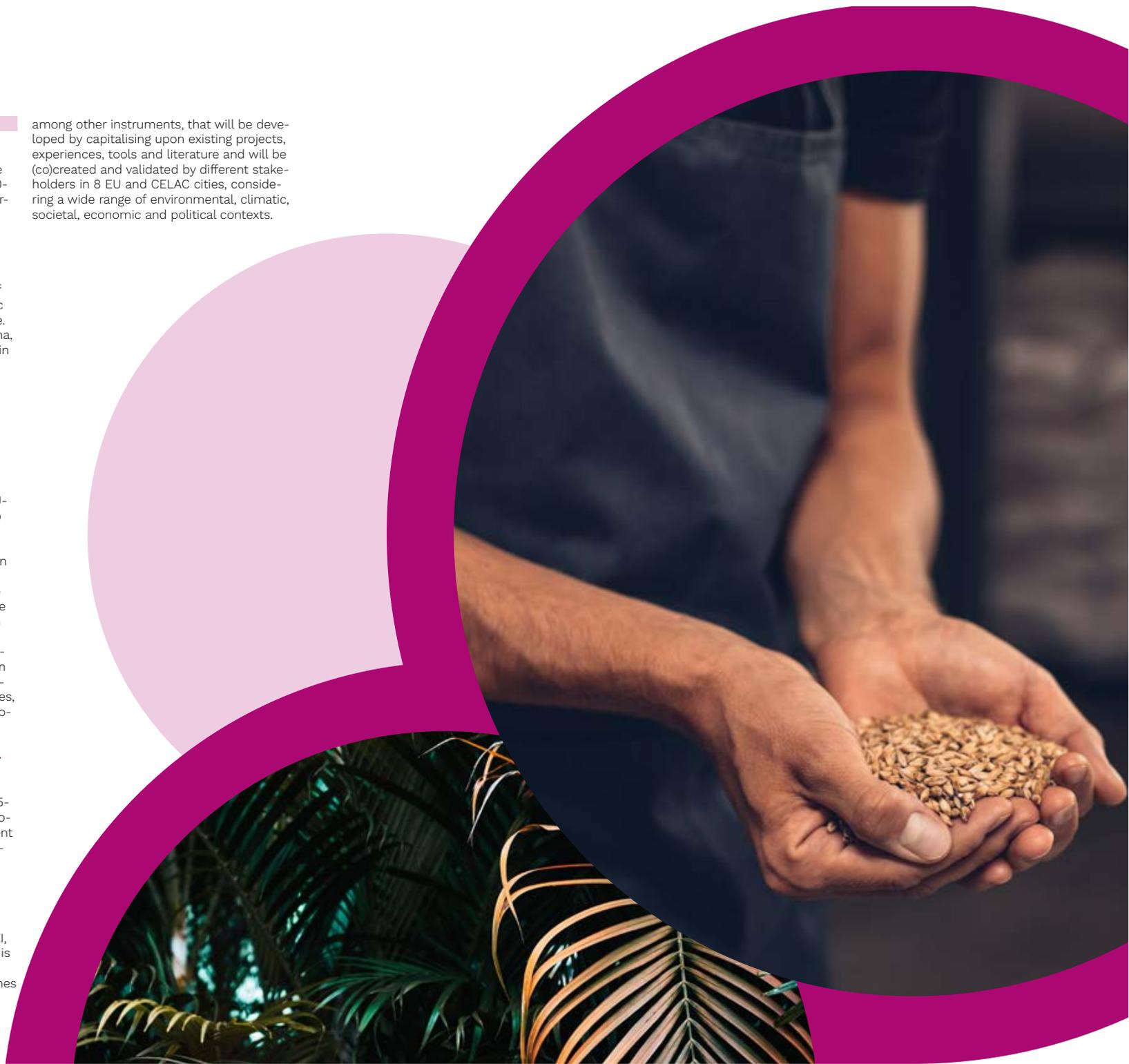
Collaborative Research Project: AGREED proposal

AGREED proposal was submitted under the SFS-34-2019 topic under the H2020-SFS-2018-2020 call in which international cooperation was encouraged within the EU-Africa Research and Innovation Partnership on Food and Nutrition Security & Sustainable Agriculture framework. This was led by KOBENHAVNS UNIVERSITET in collaboration with WAITRO and other partners (i.e. DTI, Leitat, Fraunhofer, FIRO and the CSIR). The main goal of AGREED is to contribute to the creation of an EU-AU cooperation platform on food and nutrition security, developing and demonstrating the concept of a sustainable diet based on the use of West African local materials and indigenous culinary culture. The project focuses in African countries, mainly in the West African region, in collaboration with EU partners.

Collaborative Research Project: YVY proposal

YVY proposal was submitted under the SC5-13-2019 topic under the Greening the economy in line with the Sustainable Development Goals (SDGs) Call in which international cooperation is encouraged within the EU-CELAC Strategic Partnership on "Shaping our common future: working for prosperous, cohesive and sustainable societies for our citizens". This proposal was led by Leitat in collaboration with WAITRO partners (i.e. DTI, CTA, CIDET, WAITRO). The main goal of YVY is to stimulate the implementation of NBS in cities by delivering digital tools and guidelines

among other instruments, that will be developed by capitalising upon existing projects, experiences, tools and literature and will be (co)created and validated by different stakeholders in 8 EU and CELAC cities, considering a wide range of environmental, climatic, societal, economic and political contexts.



9

OUTLOOK

OUTLOOK

The new WAITRO Secretariat is committed to increasing the impact of research and development to contribute to the United Nations' Sustainable Development Goals. While there are many innovative ideas about 'how' challenges around the globe can be addressed, the translation of innovative ideas into actions and impact is much more difficult. Changing the future sustainably requires more partnering, creative thinking and a stronger focus on concrete outcomes and impact. To create real impact, those who are facing the greatest challenges must be empowered to bring forward their own solutions, utilizing bottom-up perspectives, full stakeholder involvement, and shared ownership in the decision-making processes. The WAITRO Innovation Ecosystem was designed to change this.

These efforts will only achieve significant impact if they scale in participation. In particular, WAITRO leaders, especially the RRs and RFPs, are strongly encouraged to solicit strong participation from their respective regions; to encourage local RTOs to post and respond to challenges on SAIRA, particularly in the biennial focus area that can lead to a strong suite of applications for the Innovation Award and consequently help recruit new commercialization partners, with the promise of getting a first look at a unique set of research projects that will be the fruit of the WAITRO Innovation Ecosystem.

At the WAITRO Secretariat, we are looking forward to three more fruitful years of collaborating within the Global Innovation Family. We will continue working to improving and providing opportunities to all our members.

Thank you!



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APPENDIX

APPENDIX

All our active members in 2019:

WAITRO members in Asia & the Pacific

BCSIR – Bangladesh Council of Scientific and Industrial Research (Bangladesh)

CMTI – Central Manufacturing Technology Institute (India)

CSIR – Council of Scientific and Industrial Research (India)

CSIRO – Commonwealth Scientific and Industrial Research Organisation (Australia)

FIRDI – Food Industry Research and Development Institute (Taiwan)

FRI, CAAS – Feed Research Institute, Chinese Academy of Agricultural Sciences (China)

IEDI – Industrial Enterprise Development Institute (Nepal)

ITDI-DOST – Industrial Technology Development Institute, Department of Science and Technology (Philippines)

ITI – Industrial Technology Institute (Sri Lanka)

JITRI – Jiangsu Industrial Technology Research Institute (China)

LIPI – Indonesian Institute of Science (Indonesia)

MWA – Metropolitan Waterworks Authority (Thailand)

NFI – National Food Institute (Thailand)

RMIC, UPSI – Research Management and Innovation Centre, Sultan Idris education University (Malaysia)

SIRIM Berhad – Standard and Industrial Research Institute of Malaysia (Malaysia)

SRI – Shriram Institute for Industrial Research (India)

TISTR – Thailand Institute of Scientific and Technological Research (Thailand)

UKM – University Kebangsaan Malaysia (Malaysia)

UMT – Universiti Malaysia Terengganu (Malaysia)

UNSW Sydney – The University of New South Wales (Australia)

WAITRO members in Europe

DTI – Danish Technological Institute (Denmark)

FhG – Fraunhofer-Gesellschaft (Germany)

ITG – Galicia Institute of Technology (Spain)

LEITAT – Leitat Technological Center (Spain)

RANS – Russian Academy of Natural Sciences (Russia)

THGA – Technische Hochschule Georg Agricola (Germany)

UoB – The University of Bath (United Kingdom)

UoH – University of Huddersfield (United Kingdom)

WAITRO members in Latin America & the Caribbean

CARIRI – Caribbean Industrial Research Institute (Trinidad and Tobago)

CeNAT – Centro Nacional de Alta Tecnología (Costa Rica)

CIB – Corporación para las investigaciones Biológicas (Colombia)

CIDET – Centro de Innovación y Desarrollo Tecnológico del Sector Eléctrico (Colombia)

CTA – Centro de Ciencia y Tecnología de Antioquia (Colombia)

INECOL – Instituto de Ecología (Mexico)

INFOTEP – Instituto Nacional de Formación Técnico Profesional (Dominican Republic)

INTI – Instituto Nacional de Tecnología Industrial (Argentina)

SRC – Scientific Research Council (Jamaica)

TTBS – Trinidad and Tobago Bureau of Standards (Trinidad and Tobago)

WAITRO members in Middle East & North Africa

ARC – Agricultural Research Center (Egypt)

CMRDI – Central Metallurgical Research and Development Institute (Egypt)

IAV HASSAN II – Institut Agronomique et Vétérinaire Hassan II (Morocco)

IranDoc – Iranian Research Institute for Information Science and Technology (Iran)

IRCC – Industrial Research & Consultancy Center (Sudan)

IROST – Iranian Research Organization for Science and Technology (Iran)

RSS – Royal Scientific Society (Jordan)

TÜBITAK – The Scientific and Technological Research Council of Turkey (Turkey)

WAITRO members in Sub-Saharan Africa

AGFC – Guinean Association for Women in Research (Guinea)

BITRI – Botswana Institute for Technology Research and Innovation (Botswana)

BNARI – Biotechnology and Nuclear Agricultural Research Institute (Ghana)

CSIR – Council for Scientific and Industrial Research (South Africa)

CSIR-SARI – Council for Scientific and Industrial Research-Savanna Agricultural Research Institute (Ghana)

FIRO – Federal Institute of Industrial Research Oshodi (Nigeria)

MMUST – Masinde Muliro University of Science and Technology (Kenya)

NFTRC – National Food Technology Research Centre (Botswana)

NIPRD – National Institute for Pharmaceutical Research and Development (Nigeria)

NWU – North-West University (South Africa)

RMRDC – Raw Materials Research and Development Council (Nigeria)

TEMDO – Tanzania Engineering and Manufacturing Design Organization (Tanzania)

TIRDO – Tanzania Industrial Research & Development Organization (Tanzania)

UIRI – Uganda Industrial Research Institute (Uganda)

UYI – Université de Yaounde (Cameroon)

All our Regional Focal Points

Thailand Institute of Scientific and Technological Research (TISTR), Thailand

Region: Asia and the Pacific:

Other WAITRO functions:

2015-2016: Mr. Yongvut Saovapruk, Regional Representative

2017-2018: Dr. Luxsamee Plangsangmas, Regional Representative

RFP Team:

Dr. Chutima Eamchotchawalit, Governor of TISTR

Dr. Sophapan Sunyansanoa, Director of Innovative Business Development Division at TISTR

Dr. Boonanida Sodha, Senior Planning and Analysis Officer

Pimprapai Supornrat, International Relations Officer at TISTR

Sasipat Korthamrat, International Relations Assistant Officer at TISTR

Manunya Madkharw, Assistant International Relations Officer

Rattana Ngmavisitsil, Assistant International Relations Officer

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Dr. Chutima Eamchotchawalit is a Governor of TISTR, responsible for all administration and operations. Her background is in material science, particularly in ceramics science and engineering. She has expertise in technology transfer and commercialization, providing solutions for driving bio-based or biomass innovation into production and assisting

entrepreneurs and the private sector in her country to apply innovation. As RFP for Asia and the Pacific 2019 – 2020, Dr. Chutima is the leader of the RFP team and offers her vision to connect WAITRO to the Asia-Pacific region with effective networking.

Dr. Boonanida Sodha is a Senior Planning and Analysis Officer at TISTR. She has a role as a specialist in research related to organizational development, performance management, benchmarking analysis and strategic planning. She also works as a consultant for other state enterprise organizations in Thailand in master plan development for research, development and innovation. With her research expertise and experience, Dr. Boonanida supports WAITRO as part of the RFP Asia and Pacific Team on planning, management, and monitoring.

Ms. Pimprapai Supornrat is an International Relations Officer of TISTR in charge of relations between TISTR, overseas RTOs and global associations, especially WAITRO. She has a background in psychology and communicative English. At TISTR, Ms. Pimprapai was involved in WAITRO functions for almost 5 years as assistant to the Former Governors of TISTR; Mr. Yongvut Saovapruk and Dr. Luxsamee Plangsangmas during their appointment as Regional Representative (RR) for Asia and the Pacific in 2015-2016 and 2017 -2018. As a team member of the RFP for Asia and the Pacific 2019-2020, Ms. Pimprapai is responding to the activity plan & implementations, promoting WAITRO and SAIRA in the region, and acting as the primary contact with the WAITRO Secretariat and regional members.

Leitat Technological Center, Spain

Region: Europe

Establishment: 1906

Headquarters: Barcelona, Spain

Website: <https://www.Leitat.org/>

Contact Person:

Laia Piñol, Business Development Manager at Leitat, E-mail: lpinol@leitad.org

Laia Piñol holds a degree in Environmental Sciences (University of Girona) and a Master in Sustainable Management of Coastal and Marine Systems (University of Barcelona). She is currently working as Business Development Manager in the Promotion & Management Department for Circular & Bio Economy. She is in charge of providing business development advice and promoting new research and innovation strategies. She has expertise and interest in different EU funding Programs: H2020 (SC2, SC5, BIOTEC, SPIRE, SMEI, FTI), BBI-JU and LIFE and upcoming Horizon Europe, among others.

Centro de Ciencia y Tecnología de Antioquia (CTA), Colombia

Region: Latin America and the Caribbean

Establishment: 1989

Headquarters: Medellín, Colombia

Website: <https://cta.org.co/>

Contact Persons:

Santiago Jose Echavarría Escobar, Director of CTA, E-mail: sechavarría@cta.org.co

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Iván David Oviedo Restrepo, CTA Liaison Officer WAITRO and Innovation Project Leader, E-mail: ioviedo@cta.org.co

Santiago Jose Echavarría Escobar is a Production Engineer graduated from the Eafit University (Medellín), a specialist in Systematic Production from the RWTH Aachen (Germany), a Master in Management from the Eafit University (Medellín) and a Master Trainer of the SCORE methodology from the International Labour Organization (ILO). He has been the Director of the Antioquia Center of Science and Technology – CTA since 2005. He has been linked to the CTA for sixteen years, in which he has designed, promoted and directed numerous programs and projects developed with several public and private institutions in Colombia and other countries. He is the author and coauthor of numerous articles and books on science, technology, innovation, productivity and competitiveness. He has served as a university professor and held consultant and management positions

in Germany and Spain, among others.

Jaime Arbolde Palacio is a Systems Engineer from the Eafit University (Medellín), Master in Technology Management with emphasis on Project Management and Evaluation at the Universidad Pontificia Bolivariana (Medellín), Master Trainer of the SCORE and WISE methodologies from the International Labour Organization (ILO). He is currently CTA assistant director and also manager of the Center's Productivity branch. He has been linked to the CTA for twenty-four years, in which he has designed, promoted and directed numerous programs and projects developed with different public and private institutions. He held various management positions in Fabricato, he has also been teaching professor for undergraduate and graduate programs in various universities, and participant in several technological missions to Europe, Asia and United States. He is also the author and co-author of several publications on productivity, technology and innovation.

Iván David Oviedo Restrepo is an economist, specialist in project management and holds a Master's degrees in innovation with a focus on business innovation management. Iván works as a leader in innovation projects and professional contact with WAITRO at the CTA, helping to energize the network in the Latin American and Caribbean region. He works as a business consultant in the area of entrepreneurship and innovation management in local and regional projects; strengthening small, medium and large companies in order to implement innovation systems. He has also been a professor in the area of innovation management at numerous universities.

Agricultural Research Center (ARC), Egypt

Research: Middle East and North Africa (MENA)

Establishment: 1971

Headquarters: Giza, Egypt

Website: <http://www.arc.sci.eg/>

Contact Person:

Dr. Amal Saber Owis, Professor at Agricultural Research Center (ARC), E-mail: amalsaber@yahoo.com

Dr. Amal Saber Owis, Professor at Agricultural Research Center (ARC)

Dr. Amal Saber Owis is professor at Cotton Chemistry Department, Cotton Research Institute, Agricultural Research Center. She earned her PhD in Agricultural Biochemistry at Cairo University and completed a postdoctoral fellowship at the Biological Engineering Department, Dalhousie University, Halifax, Nova Scotia, Canada. Dr. Amal has 22 years of experience in the field of plant biochemical technology, byproduct utilization and wastewater treatment. She published more than 32 articles in national and international scientific Journals, 5 publications at national and international scientific Conferences, workshops and symposiums, 4 books and 2 patents. She has a long record in management of small and medium research projects nationally and internationally, including projects of the Seventh Framework Programme, EU. Dr. Amal Saber Owis is the first Egyptian young scientist woman at ARC who was awarded the National State Encouragement Award in Agricultural Science. She also earned numerous other awards.

Raw Materials Research and Development Council (RMRDC), Nigeria

Research: Sub-Saharan Africa

Establishment: 1987

Headquarters: Abuja, Nigeria

Website: <https://www.rmrdc.gov.ng/>

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Prof. Ibrahim Hussaini Doko, Director General and CEO of RMRDC, E-mail: ceo@rmrdc.gov.ng

Rachel Kotso holds a Bachelor degree in Zoology (1988) and a Master's degree in International Relations and Strategic Studies (2007). She is currently working as Deputy Director, International Collaborations. On this desk, she coordinates RMRDC's interactions with bilateral/multilateral international organizations and other relevant research institutions

across the globe; as well as Nigerian Missions abroad, Embassies and High Commissions of Sovereign Nations in Nigeria. She is also the desk officer for Nigeria's Group of Seventy-Seven (G-77) and Group of Fifteen (G-15) projects. Mrs. Kotso has attended various international workshops, seminars and other capacity building programmes and is a member of Organization of Women in Science of Developing Countries (OWSD); Nigerian Institute of Management (NIM), Chartered; Institute of Strategic Management, Nigeria (ISMN) and a Fellow of Institute of Service Excellence and Good Governance.

Hajara Yahaya Tanko holds a B.Sc. Degree in Chemistry (1986) and MSc. in Pharmacognosy (2011) from Ahmadu Bello University (ABU), Zaria, Nigeria. She is currently pursuing a PhD with interest in Bio-pigments of Pharmaceutical Applications from Nigerian Plants in the same university. She is presently the Director (Planning and Policy Development Department) at RMRDC and coordinates the bilateral and multilateral activities of RMRDC, oversees policy formulation, analysis and development of RMRDC. She is a member of professional bodies which include: The Competitiveness Institute (TCI); American Society of Pharmacognosy (ASP); International Master Certification on Project Management (MPM); American Chemical Society (ACS); Institute of Chartered Chemists of Nigeria (ICCON); and Chemical Society of Nigeria (CSN).

Professor Ibrahim Hussaini Doko holds a Doctorate degree in Textile from Leeds University, UK. He serves as the Substantive Director General and Chief Executive Officer of the Raw Materials Research and Development Council (RMRDC), vested with the mandate to promote, support and expedite industrial development and self-reliance through promoting the production, development, processing and optimal utilization of Nigeria's local raw materials resources as inputs for industries. In the course of his public career in the University and the RMRDC, Professor Hussaini Doko Ibrahim has served in several committees and at Inter-ministerial levels. Prof. Ibrahim is a fellow of over twenty-two professional bodies, including the American Academy of Project Management and has to his credit, 122 publications which include journals, books and other technical publications and holds 2 patents.

WAITRO



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ASSOCIATION of
INDUSTRIAL &
TECHNOLOGICAL
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ORGANIZATIONS

Published by the WAITRO Secretariat with contributions from the Regional Focal Points.

Editors:

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Design:

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