



Supporting European Union and South East Asia ICT strategic partnership and policy dialogue:  
Connecting ICT EU-SEA Research, Development and Innovation Knowledge Networks

## **Activities funded in the framework of the CONNECT2SEA call for proposals**

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## Introduction

CONNECT2SEA is a support action that aims to support policy dialogue and to mobilise and encourage ICT networks and their actors to develop common and shared responses to major societal challenges and industrial leadership technologies, and will contribute to the reinforcement of synergies between EU and SEA ICT RDI programmes. One of the key elements of this project is the **CONNECT2SEA call for proposals**.

The CONNECT2SEA call for proposals was launched on 31<sup>st</sup> March 2014 with deadline for submissions on 31<sup>st</sup> May 2014. **55** applications were received under this call for proposals with the involvement of **136** organisations. **30%** of the participants came from South East Asia and **70%** from Europe. After finalisation of the selection process, 21 applications (6 travel grants and 15 event grants) were selected, involving a total of 41 organisations and 21 countries.

The description of the 21 selected applications is detailed below:



## Achieved activities

### Travels

#### Initiating the research collaboration between Electrical Engineering Department Brawijaya University (Indonesia) and Microwave Electronics Department University of Kassel (Germany)

<b>Date:</b> 7-12 Sept 2014	<b>Location:</b> Germany	<b>Main applicants :</b> Brawijaya University, Indonesia
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**Description of the activity:**

Funded under the CONNECT2SEA call for proposals, Dr Onny Sentyawati's visit to the Microwave Electronics Department, University of Kassel, helped initiate new scientific collaborations between Germany and her native country of Indonesia. Dr Sentyawati's (of the Electrical Engineering Department at Brawija University) travel grant enabled her to pay visits to Kassel and the Max Planck Institute in September of this year to discuss scientific papers and collaboration plans. Notable meetings included those on microwave sensors for Porang tubers and papers about ground penetrating radar, as well as on the possibility of involving other institutes in future partnerships in botany and agriculture. The opportunity also presented itself to inspect the equipment and materials necessary to undertake the research, in addition to collecting information for further papers on the use of ICT-related research for studying plants. Overall, the visit was a step towards strengthening ICT research into food sustainability and stimulating progress in scientific cooperation between German and Indonesian specialists.

#### Development of Quantum Technologies for Space Applications

<b>Date:</b> 10-18 Oct	<b>Location:</b> Singapore	<b>Main applicant(s):</b> University of Strathclyde, UK
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**Description of the activity:**

The Development of Quantum Technologies for Space Applications event, took place in Singapore in October of this year, and was organised by Dr Daniel Oi of the University of Strathclyde and Dr Alex Ling, who is the Principal Investigator at the Centre for Quantum Technologies, National University of Singapore. Dr Oi's visit was intended to strengthen and review the already existing cooperation project between the two institutions, the initial phase of which has thus far produced a prototype Small Photon Quantum Entangling System (SPEQS) ready for testing in space. The researchers also held a strategic planning meeting, where they outlined a bold vision of expanding their activities to encompass a mission for a full space-ground quantum communication demonstration. Dr Oi presented a seminar to the gathered scientists, and these collaborators now have a mission path paper in progress as well as several proposals, while Strathclyde is gathering a consortium of EU countries who could, together with Singapore, mount a space-ground mission to transmit quantum signals and demonstrate QKD. The Connect2SEA grant came at a crucial stage in this collaboration – at the end of the first stage and before the start of the second, it was exactly the right moment to have an opportunity to tour the SEA facilities and have discussions with individual team members



## Innovative large-scale ICT applications for food and diet-related health promotion with children and young people

**Date:** 2-10 Nov 2014

**Location:** Thailand

**Main applicant(s):** University of the West of England, UK

**Description of the activity:**

Health and well-being, particularly among children, is an important issue in today's world, and so the recent symposium on the subject ("Innovative large-scale ICT applications for food and diet-related health promotion with children and young people") funded by Connect2SEA, proved particularly relevant. The event took place in Khon Kaen, Thailand, between the 4th and 7th November, and was co-organised by Mat Jones, Senior Lecturer in Health, Community and Policy Studies at the University of the West of England, and Pannee Banchonhattakit, an associate professor at Khon Kaen University. 5 core researchers participated, along with a wider group of 7 others, while the symposium and meeting events had audiences of 20 and 15 people respectively.

However, the first meeting, on was held in order to discuss details of research and theory. Over the next two days, these discussions continued but with the added contributions of 7 more scientists. They all took part in a scoping exercise, helping to draft the collaborative research rationale, focus and scope, as well as a four-stage plan to follow in order to submit a major collaborative research proposal. Following this, there was a symposium with health experts, during which Mr Jones presented UK research on the subject and held an open discussion to identify research commonalities between the EU and South-East Asia (SEA). The last day of the event was spent in discussion with health promotion experts, homing in on the substantive area of enquiry: health promotion among children and the young.

During this variety of activities, the following outcomes were achieved: new collaborative links were forged as well as new basis for cooperation between Food For Life in the UK, and the 10 Pillars of Health scheme in Thailand. Furthermore, collaboration appears to have been accounted for into the future, as an exchange scheme for doctoral and postgraduate students was clearly set out, as was a statement of intent, or roadmap of developing a future joint research bid. There are also plans in the works for developing new ICT methodologies for health promotion based in schools.

While these achievements have forged important links between the EU and SEA in this research area, the participants felt it would have been beneficial for SEA nongovernmental organisations to have a greater role in this domain. Mr Jones in particular hopes to involve experts from Cambodia and Laos in the next stage of collaboration (a follow up meeting is planned but details have not yet been agreed on), thereby covering even more ground with this endeavour.

Nevertheless, Mr Jones did manage to meet with Hriday, a major nongovernmental organisation in health promotion with a strong record of ICT research, in New Delhi, and it could potentially also be a partner in the initiative.

Overall, the grant from Connect2SEA facilitated the establishment of links not only between the EU and SEA, but between higher education institutes, nongovernmental organisations and government agencies, thereby considerably broadening the scope of the initiative. The participants plan to produce a peer-reviewed research article titled "Meta-analysis of the characteristics and effectiveness of ICT in food and diet-based programmes in school and youth settings in low and middle income countries".



## Events

### DAQ-LDS - Seminar on Data Analysis and Querying of Large Data Sets

**Date:** 13-15 oct 2014

**Location:** Malaysia

**Main applicant(s):** University of La Rochelle (ULR), France / International University of Malaya-Wales (IUMW), Malaysia

**Description of the activity:**

Funded under Connect2SEA and in with the aim of strengthening ties between scientists regardless of geographical location or cultural difference, the "Seminar on Data Analysis and Querying of Large Data Sets" took place between 13<sup>th</sup> and 15<sup>th</sup> October in Kuala Lumpur, Malaysia. The event was co-organised by Patrice Boursier, professor at the Université de la Rochelle, France, and Sureswaran Ramadass, professor at the International University of Malaya-Wales, Malaysia, and had 18 participants from 8 organisations.

The agenda showcases the variety of subjects covered during the seminar, which on its first day proceeded from the introduction of the participants to a discussion of Big Data project and a presentation by Dr. Nicolas Spyrtatos, an Emeritus Professor at University Paris-Sud, on "A Functional Model for Data Analysis and Result Visualization". The following day the topic moved on to personalizing queries over large data tables, and then to the area of biotechnology with a presentation on DiseaseMedia, an information system for diagnosing and treating rice diseases, before ending on proposals for possible prototype development based on the Functional Data Model. The last day of the event was spent in discussion of this last point.

As a result, all the expected outcomes of the event were indeed achieved. The model and methodology of data analysis were introduced, in addition to research aspects, prototypes and application domains in need of further exploration being discussed by all partners. They have agreed, in summary, to work on several areas, such as developing a visual query language based on Professor Spyrtatos' approach to querying data sets, which should provide insight into the model's power and limitations, and also on collecting microclimate data and crowd sourcing data to plan rice crops, as well as examining the definition and use of context for objects connected in the Internet of Things. Furthermore the participants managed to establish a connection with another Connect2SEA research group, also meeting in the area at around the same time.

In terms of reinforcing EU-SEA collaboration, this event gave the participants the opportunity to create an international research network in their areas of interest and expertise, and also provided impetus for all of them to begin work as a homogenous group.

The group has plans to submit research proposals to other funding bodies in the future and is already planning a second seminar between April and June 2015 for researchers to present their developments in the prototypes, which can then be refined. This continuation of collaboration really shows such a positive outlook on the future for science cooperation between EU scientists and their SEA counterparts, leading the way to future innovations.

In relation to future work, the group expressed keen interest in being kept up-to-date with H2020 developments and with other successful projects in the area.



## Data Management in the Cloud Era (satellite to the ISIP 2014 conference)

**Date:** 8 oct 2014

**Location:** Malaysia

**Main applicant(s):** Université Blaise Pascal, France / HELP College of Arts and Technology (HU), Malaysia

**Description of the activity:** *(extract from the application, report not yet received)*

This workshop aims to deal with the prominent issues of data management on the cloud. It will focus on the issues of managing large volumes of data ("big data") that might also come in a streaming mode. Cutting edge research will be explored into the following areas:

- Using NoSQL databases to store semantic web data mainly describe in RDF;
- Explore SPARQL implementations in the cloud, taking advantage of distributed computations;
- Explore RDF triplestore implementations that account for replication on the cloud introducing issues of scalability and elasticity including support for updates and transactions;
- Implement database operators like joins or more specialized ones such as spatial operators (near, intersect, etc.) in MapReduce, GPS and other distributed computing infrastructures;
- Architectures for personal information management on the cloud (a novel but quickly emerging problem since more and more the personal data are becoming big data);
- Discuss novel applications of big data management on the cloud.

The organizers plan to invite various internationally recognized experts to participate in the workshop and present and discuss novel research contributions in the area. Various potential contributors in the area could be Professor Timos Sellis from RMIT University (Australia), Professor Vassilis Christophides from University of Crete (Greece) and Professor Yuzuru Tanaka from Hokkaido University (Japan). Needless to note here that the organizers also possess expertise in the area, which is one of the main focuses of research for almost all of them. This will be coupled with the organization of various round tables open discussions among all participants in order to exchange and discuss ideas and foster collaborations.

## SeMIPRo: Spanish Malaysian IoT Platform

**Date:** 16 oct 2014

**Location:** Malaysia

**Main applicant(s):** Advantic Sistemas y Servicios, Spain / MIMOS Berhad, Malaysia

**Description of the activity:**

The SeMIPRo initiative is in charge of the establishment of two reference points for IoT researchers and innovative companies to place contacts for R&D and commercial collaboration. The kickoff meeting included a presentation by each entity, elaboration on the dissemination of the roadmap and identifying IoT collaboration opportunities based on the partners' profiles. In order to support National Contact Points' (NCPs) activities, another dissemination roadmap was outlined. The workshop was also useful in elaborating on bodies which could be used as main channels of dissemination. In terms of IoT collaboration opportunities, the main field of activity was identified as activities in aquaculture, air quality and fire detection, to aid with managing emergencies. Furthermore, in the future other



opportunities will arise, when the Malaysian IoT blueprint is released. This roadmap will also mean that SeMIPRo can respond to H2020 calls and improve collaboration between EU and SEA.

The IoT event itself took place on 16th October, as did the kickoff of the IoT Working Group for supporting standardization activities. The planned outcomes of this event were to hold a national IoT workshop in Malaysia, and thereby to facilitate the PoC implementation of an IoT use case using components from collaborators. These outcomes were in fact achieved, but as mentioned above, not all potential opportunities for collaboration could be identified until the Malaysian IoT blueprint is released.

With regard to how the event contributed to ICT collaboration, it gave many Malaysian companies new insight into IoT in Spain and Europe, and also into how to access collaborations through contact points. In addition, several ideas for collaboration on environmental issues were raised. As a result, the participants do plan further cooperation, specifically in IoT as it relates to aquaculture and rural development, and to respond to an H2020 call in 2015 on the subject of other environmental matters such as food security, sustainable agriculture and forestry, and the bioeconomy. Before this, however, there will be a follow up workshop in Spain to continue the work that has begun, and afterwards the event participants plan to keep in constant communication with one another.

Some suggestions were made to make collaboration easier, such as the fact that access to grants for promoting technology should to be controlled to allow mainly SMEs to access the SEA market, so that commercial relations are taken into account when trying to improve services with local partners. Other suggestions included giving out grants on the condition that exploitation is shared equally between EU and SEA participants, and that bilateral agreements are set up with SEA authorities to release calls pertaining to Further help that was seen as potentially very useful (that didn't include funding) was updates on H20202 and the active promotion of events held between the EU and SEA.

## SEA - EU Workshop on ICT applications for Smart, Low Carbon Cities: EU/SEA perspectives

<b>Date:</b> 11-13 Nov 2014	<b>Location:</b> Malaysia	<b>Main applicant(s):</b> London South Bank University, UK / University Teknologi Malaysia, MY
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### Description of the activity:

One of the recent events in EU-SEA collaboration funded by Connect2SEA was the workshop and other activities on ICT applications for Smart, Low Carbon Cities, organized and led by Dr Sandra Dudley of London South Bank University and Dr Shoz Komaki of UTM in Malaysia. The event took place over three days in November in Kuala Lumpur, with a total of 22 participants. During the workshop itself, the speakers presented and answered questions on their active areas of research, and the participants discussed strengthening and expanding the partnership between London South Bank and MJIT in Malaysia as well as the identification of commonly agreed upon international calls. The following day the participants joined in the MJIS 14 and AUN/SEED-Net regional conference, where SEA researchers presented and discussed their particular interests. There was also a keynote session dedicated to ICT solutions for the creation of low carbon cities in South East Asia. The partners were able to finalise the main streams for project ideas and draft a plan of action for H2020 calls related to monitoring the elderly in smart cities. Another outcome of the event was an application for a Newton Fund cross-collaboration in smart energy and rural inclusion. The partners decided that for the moment they would concentrate on smaller experimental work for submission to high impact journals, and plan to keep existing links open for further cooperation and discussion.



## The role of partner support in mobile-phone based (mHealth) interventions for chronic disease management – Type 2 Diabetes Mellitus

<b>Date:</b> 28-29 Nov 2014	<b>Location:</b> Germany	<b>Main applicant(s):</b> Ludwig Maximilians University, Germany / Nanyang Technological Univ, Singapore
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### Description of the activity:

To initiate cooperation in the field of mHealth research for chronic diseases (as described above), a first workshop will be organised to bring together proposed scholars working in the research area of mobile communication, health communication, and mobile health interventions. The 3-day workshop will be held at the Ludwig-Maximilians University in Munich (Germany) in fall 2014 (Sept/Oct 2014). Researchers from SEA will be invited to come to Europe for this initial workshop. Within 3 days, all researchers will come together to discuss (1) the study design and procedure for a study on the role of partner support in mHealth interventions for chronic disease management, (2) a joint panel proposal for the Annual Conference 2015 of the International Communication Association, (3) a proposal for an mHealth diabetes research project with European Union funding (HORIZON 2020), and (4) other future cooperations in the field of mHealth for disease management. Regarding these four aspects for cooperation, the objectives of the workshop in Munich are the following:

1. Discuss and decide on a final study design for research on the role of partner support in mHealth interventions for chronic disease management. The objectives are to study the efficacy of mobile-based data collection and interventions designed to improve diabetes management among type-2 diabetic patients by involving their strong-tie connections (usually a partner). Diabetes management will be measured in clinical outcomes (e.g., HbA1c blood glucose levels) and in behavioral change (e.g., reported medication adherence, regular blood glucose testing, regular clinical check-ups, following recommendations for nutrition and exercise). In the first phase qualitative focus groups with diabetics and their strong-tie partners should be conducted in order to understand what types of mobile-based interventions are preferred. In a following second phase, an experiment will follow using randomized assignment to allocate diabetics and their strong-tie partners to control and treatment conditions.
  2. Based on the first joint study and various other research projects, a panel proposal for the Annual Conference 2015 of the International Comm. Ass. will be developed, to hand in the proposal after the workshop in November 2014. A successful panel proposal will provide the opportunity for a second meeting of the research group in Spring 2015 at the ICA Annual Conference (21-25<sup>th</sup> of May, 2015; see [http://www.icaheadq.org/conf/past\\_future.asp](http://www.icaheadq.org/conf/past_future.asp)).
  3. A proposal for EU funding on a larger basis will be discussed, and a draft for an application will be worked out at the workshop. A cooperation for EU funding will include a larger number of cooperating researchers. Looking for potential partners will be part of the workshop. Furthermore, requirements for EU funding will be looked at in detail at the workshop.
  4. A discussion of other future cooperations will allow to find overlapping research topics that could be interesting for future cooperations between two or more scholars.
1. The workshop in Munich will be followed by a meeting of all collaborating researchers at the Annual Conference 2015 of the International Communication Association (ICA) in San Juan (Puerto Rico) in May 2015. The meeting at the ICA will include a 75 minutes research panel and a 3-hours meeting of the collaborating SEA and EU participants.



## Planned activities

(As detailed in the application)

### Travels

<b>Research, development and cooperation in a modern networking environment</b>		
<b>Date:</b> 3-8 Jan 2015	<b>Location:</b> Malaysia	<b>Main applicant(s):</b> University of Piraeus, Greece
<p><b>Description of the activity:</b>            The travel will provide the opportunity for the two sides to exchange research experiences and solidify common goals.            In particular, presentations will be made by Dr. Douligeris on issues related to his own research activities on performance evaluation of networks, security and privacy issues, cloud computing, and applications of web and internet technologies in fields such as e-government, agriculture and healthcare.            Moreover, Dr. Douligeris will provide information and training on writing proposals to EU initiatives and will present ways of collaboration between European and Malaysian researchers .            The first steps for preparing a common H2020 proposal will be taken. The roadmap for future cooperation will be formed. The exact schedule of the visit will be finalized two weeks before the visit, to allow for maximum visibility and effectiveness.</p>		

<b>Initiation of E-Learning Project between UDE Germany and UCSY Myanmar</b>		
<b>Date:</b> Mar or Apr 2015	<b>Location:</b> Germany	<b>Main applicant(s):</b> University of Computer Studies, Myanmar
<p><b>Description of the activity:</b>            During the travel period, travel specialist and hosting specialist plan to discuss the following agenda:            [1] Meeting with host professor, Prof. Dr. Axel Hunger, in Duisburg for research collaboration.            [2] Presentation by Prof. Dr. Thinn Thu Naing about the current researches running on Myanmar, about home University and home Country, in Duisburg            [3] Discussing about the current research progress and future plan together with travel specialist Dr. Thinn Thu Naing and hosting professor Prof. Dr. Axel Hunger, in Duisburg            [4] Discussing and presenting the theory development and the practical work about IPv6 and real time Technology for long distance the E-Learning Joint Research.            [5] Attending seminar presentation of PhD candidate of sandwich program between UCSY(applicant organization) and UDE(hosting organization) as local and host supervisor.</p>		



## Estimation of exploitation possibilities, cooperation and IPR models

<b>Date:</b> 11-17 May 2015	<b>Location:</b> Poland	<b>Main applicant(s):</b> Institute of Microengineering & Nanotechnologies, Malaysia
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### Description of the activity:

The principal purpose of the travel will be to reinforce the existing cooperation between Institute of Microengineering and Nanoelectronics, Universiti Kebangsaan Malaysia (Bangi, Malaysia) and department of Optoelectronics, Faculty of Electrical Engineering in Czestochowa University of Technology (Poland). The jointly performed research focuses on innovative and efficient photonics devices based on plasmonic nanoparticles and titanium and zinc oxide. The studied materials exhibit extraordinary properties due to very interesting morphological topography and may have potential applications as ZnO oxide nanostructure is proposed. A short seminar "Plasmonic nanoparticles on metal oxide layers – nonlinear optical properties" will be held with the visiting applicant as keynote speaker. Joint grant application to finance further research will be prepared during the travel as well as other activities strengthening the cooperation between the parties such as joint supervision over a PhD thesis, possible subject of thesis will be: "Photoinduced operation by the ZnO nanoparticles with different morphology"

## Events

### EU-SEA workshop and cooperation on internet of things and open platforms

<b>Date:</b> 25-27 Jan 2015	<b>Location:</b> Vietnam	<b>Main applicant(s):</b> Easy Global Market (EGM), France / Hue University, Vietnam
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### Description of the activity:

Internet of things (IoT) is one of the most promising ICT technologies connecting objects, machines and people in smart ways. All IoT-related EU research projects are actually coordinated within a cluster called IERC (Internet of things research cluster, <http://www.internet-of-things-research.eu>) which is today coordinating +15 EU research projects for € +75 Millions. IERC is also very active in discussion cooperation with US, Japan, Korea and China and we believe that it would be worth to explore cooperation between EU and SEA in this area. Currently, there are already beginning of cooperations between EU and SEA countries in this and other related topics, such as and in between Insight---NUI Galway (IR) and HUE (VN), UPPA (FR) and KMUTT (TH), EGM (FR) and I2R (SG). Thus, these partners intend to meet at the occasion of the 11th RIVF 2015 International Conference on Computing and Communication Technologies (<http://rivf2015.ctu.edu.vn>) to develop further cooperation but more importantly to provide their experiences to stimulate cooperation in IoT research and platforms for the whole SEA region. Contacts have been already taken with RIVF 2015 local organiser and Steering Committee. Therefore the 3 EU-3 SEA partners intend to organise in parallel and with the 11th RIVF 2015 conference three synchronised events:

1. An EU-SEA Workshop on Sunday 25 January 2015 to present status of research in these fields, experience of current projects and concluding on roadmap of cooperation between EU and SEA. Presenters from IERC and many EU FP7 projects will be present as well as SEA partners to present their needs and success stories of collaboration
2. A scientific day dedicated to IoT and open Platform stimulating papers and participants from SEA countries. This day can be one of the days 26---27---28 and will be part of RIVF 2015



3. World popular “Hackaton” \* to invite participants from SEA countries to come and play with real implementations and have the challenge to develop IoT applications. It is expected that the open Source platform from EU OpenIoT project will be available, as well as a platform from our Singapore partner. The Hackaton can be organised in parallel (expected developers so different from RIVF015 participants) along the 3 days 26-27-28 January. Due to the nature of the platform connected to Internet, it is planned to offer some components of the platform as a service to allow remote participation (i.e. without having to travel to CanTho).

## Workshop on Data Privacy Management and its Implementation in eHealth Systems

**Date:** 5 Feb 2015

**Location:** Vietnam

**Main applicant(s):** IMDEA Software Institute, Spain / Industrial University of Ho Chi Minh City, Ho Ci Minh City

### Description of the activity:

The proposed activity consists of a 1-day workshop on data privacy management. At the workshop the case of eHealth systems will be studied in depth.

The event will be open to participants from academia, industry, and governmental organizations. Special efforts will be made to attract participants from the health sector. The workshop will include two invited keynotes (1 hour each, including questions) and five invited talks (40 minutes each, including questions) covering the technical, social, legal, and business aspects that are involved in managing private information. The workshop will conclude with a round-table session (1 hour) where the challenges and opportunities for data privacy management in Vietnam, especially in the eHealth sector, will be discussed. Prof. David Basin from ETH Zurich has already confirmed his participation as keynote speaker in the workshop. Prof. Basin is a full professor at ETH Zurich and has the chair for Information Security at the Department of Computer Science since 2003. From 2003-2011 he was founding director of the ZISC, the Zurich Information Security Center.

The main objective of the workshop is to raise awareness of the challenges that lie ahead in relation with data privacy management, as well as the opportunities that these challenges bring about, in particular in the eHealth sector. To maximize the impact of the event key figures from academia, industry and governmental organizations are planned to be invited.

As a secondary objective, the workshop will be the first public event organized by our envisioned joint-research group on data-privacy & security.

## International workshop on Cooperative Model Driven Development

**Date:** 6-9 Feb 2015

**Location:** France

**Main applicant(s):** ENSTA Bretagne, France / Vietnam National University in Hanoi, Vietnam

### Description of the activity:

The proposed activity is the continuation of the pre-project R2IDM (Réseau de Recherche en Ingénierie des Modèles – Research Network in Model Driven Engineering) started in 2013 between French and South East Asian partners in the context of a pre-project supported by the Francophone University Agency (Préprojet de Coopération Scientifique Inter-universitaire - PCSI, Agence Universitaire de la



Francophonie – AUF). This 18 months pre-project, led by Prof Tran Dan Thu from the University of Science of Ho Chi Minh City in Vietnam, is the result of a strong partnership between institutions from Vietnam (IFI, Danang University of Technology and Science University of Ho Chi Minh City), Cambodia (ITC) and France (University of Toulouse/IRIT and ENSTA) and was aimed at creating a research network in Software Engineering and more specifically in Model Driven Engineering in the Asia Pacific region. This network was to include industrial partners in order to raise their awareness concerning research issues in software engineering. This seemed particularly important in South East Asia where IT is a very fast-growing industry and where IT companies need to rapidly rise to strategic challenges in terms of R&D in order to remain competitive.

The research project that the participants have decided to work on has been chosen so as to best fit their research interests. The idea of the project is to propose an MDE based methodology for the cooperative development and simulation based validation of environmental sensor networks. This encompasses several of the participants' subjects of interest notably: Agent based simulations of environmental systems, environmental sensor network applications, tooling for cooperative MDD and of course Model Driven Engineering and Development. The present application covers two separate activities: the first one is a project meeting between the applicants to discuss of their works in the context of the above project. The second activity is their participation to an international workshop that the applicants will be organising as a satellite event of the 3rd International Conference on Model Driven Engineering and Software Development (Modelsward'2015) which will be held in Angers from the 9th to the 11th of February 2015. This workshop will be the First International Workshop on Cooperative Model Driven Development is intended to be an occasion for the applicants to disseminate their work in the MDE community. It is also aimed at widening the research network and opening it to new participants.

## Workshop on “Advanced Computing for Control and Real-Time Performance Optimization”

<b>Date:</b> 5-23 Mar 2015	<b>Location:</b> Thailand	<b>Main applicant(s):</b> IWR - Heidelberg University, Germany / Chulalongkorn University, Thailand
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**Description of the activity:**

The recent advances in computer hardware and in particular in algorithms for dynamic optimization have created the opportunity to use optimization methods online for high performance control and real-time performance optimization. Domains of application range from chemical and biochemical production plants to mechatronical systems, in particular prostheses. The integration of advanced computing into the control of physical systems creates cyber-physical systems in which the performance of the overall system depends equally on its physical design and on the computer hard- and software. The goal of the workshop is to present and discuss the state of the art in algorithms, problem formulations and applications for advanced control and real-time performance optimization. The speakers will come from leading academic institutions in Europe and in South-East Asia. A significant industrial participation is targeted, stimulated by a panel discussion with industrial speakers. From the workshop, ideas for future joint projects are expected to emerge.



## EU-SEA WEARABLE TAKE-OFF

**Date:** Apr 2015

**Location:** Indonesia

**Main applicant(s):** Evolaris next level GmbH, Austria / Binus International University, Indonesia

**Description of the activity:**

Wearables are one of the fastest growing markets with a huge economic potential both in Europe and SEA. The global market for wearable devices was estimated to be valued at USD 2,012.7 million in 2012 and forecast to reach 5,827.1 million by 2019 at a Compound Annual Growth Rate (CAGR) of 16.4%. : On parallel to the wearables market also the market of associated e.g. mobile health apps is growing rapidly. According to the Mobile Health Market Report 2013-2017 of research2guidance the total mHealth market revenue will have grown by 61% (CAGR) to reach US\$ 26 billion by the end of 2017. The main sources of revenue will not come from application download revenue itself, but from mHealth services and hardware sales.

Overall goal: best practice exchange on the development of applications & services for wearables in 3 application domains: Sports/tourism, mHealth, Factories of the Future/ smart production

Participants (target group): excellent researchers from research institutions inEU & SEA (see partner descriptions), industry partners interested in the exploitation of wearbale technologies (AVL) and university students interested in wearable technologies (participants of "hands-on session")

The Programme of this event is the following :

Day 1 - Synergies, research activities, projects

Day 2- Wearables in SPORTS/TOURISM, mHEALTH and and the FACTORY of the FUTURE - hands-on sessions

Day 3 - Scientific collaboration, next steps

see AGENDA for details

The expected results are:

- Knowledge and best practice transfer in the field of wearable technologies
- Concepts/outlines for student projects (bachelor, master, PhD)
- First wearables implementation concepts and paper prototypes for the 3 application areas (SPORTS/TOURISM, mHEALTH and and the FACTORY of the FUTURE)
- Outline of publication e.g. for MobileHCI, CHI etc.
- Mapping of cooperation topics for joint research proposals& projects (e.g. Horizon, COMET)
- Estimation of exploitation possibilites, cooperation and IPR models

## Joint workshop on "EU-SEA Network for Quantum Optical Technologies"

**Date:** 18-22 May 2015

**Location:** Bulgaria

**Main applicant(s):** Sofia University, Bulgaria / Singapore University of Technology and Design, Singapore

**Description of the activity:**

The workshop will feature a distinguished group of participants from SEA and EU who will present timely, cutting-edge results at the forefront of the quantum optical devices domain. The presentations will provide the full range of critical developments in the field while indentifying existing theoretical and



technological challenges that need to be addressed by the community for the successful development of quantum optical devices. All participants of the event will be given the opportunity to present their results which will be featured in Technical Sessions. Additionally, there will be Sessions in which the participants will be divided into smaller groups by their research interests in which they will discuss critical developments in the field. Along with the technical and discussion sessions, the event will feature a visit to research laboratories at the Georgi Nadjakov Institute of Solid State Physics at the Bulgarian Academy of Sciences where cutting-edge experiments in the field are conducted.

The workshop will be host at the Kempinski Hotel in Sofia which has seminar venues designed to foster collaborations and creativity. In detail, the workshop will take place in a flexible interactive space equipped with several projectors, white boards and round tables which promote presentation of ideas, interactions, and transfer of knowledge. Andon Rangelov, Prof Vitanov and TCPA Foundation will provide administrative support to the workshop.

The objectives of the EU-SEA Network for Quantum Optical Technologies workshop include:

- i) To bring together a group of 20 international distinguished researchers to share innovative research ideas and to network;
- ii) To expand the in-depth technical knowledge of various methods for coherent control of quantum systems with applications to optical devices; To develop modern optimization techniques for light transfer between optical waveguides; iii)
- iii) To expose the participants in the conference to the research communities from Singapore and Bulgaria working in the same field;
- iv) To enable the participant to identify new, exciting, open questions in the field of quantum optical devices and to establish several collaborative partnerships that will result in joint publications;
- v) To promote the funding opportunities for SEA-EU collaborations within Horizon

## Computational Intelligence Methods for Biomedical ICT in Neurological Diseases

**Date:** 20-21 May 2015

**Location:** Italy

**Main applicant(s):** University Mediterranea of Reggio Calabria, Italy / International University Vietnam National Universities, Vietnam

### Description of the activity:

The activity to be funded is the organization of a Special Session on the themes of the proposal (ICT for Societal Challenges, Health/Wellbeing) at the workshop WIRN organized yearly by the Italian Society of Neural Networks (SIREN). Next year (2015) the WIRN is planned to include a panel discussion on the common researches carried out in ASEAN, SEA and EU countries, also promoting the knowledge of the respective programs (often, with great overlap). This will generate as a by-product an increment of co-published papers with coauthors from both parts. In particular, the proceedings of the WIRN are published by an International Publisher (Springer), in a series coordinated by the professor Lakhmi Jain , University of South Australia, and co-edited by two partners of the proposal. Among other, we would like to include the SEA partner among the co-editors of the book This activity would be greatly synergistic with other planned actions, also favored because Professor Vo Van Toi was elected as the Executive Director of the Vietnam Education Foundation.

The special session will be co-chaired by the 7 partners of the present proposal, and each one will indicate a number of potential attendees.

The major focus of the session will be on the use of ICT for health and wellbeing, thus illustrating how the development of systems ICT-based can reduce the expenditure of sanitary systems, can allow the



monitoring of patients in isles, rural areas and difficult context areas like big cities, and, finally, can improve the quality of life of a large number of people.  
The session will be concluded with a panel session with a special focus on the convergence of ASEAN (SEA) and EU programs on ICT for Health and Wellbeing.

## Symposium on Trends, Impact, and Solutions for Security in the Cloud

<b>Date:</b> 11-12 June 2015	<b>Location:</b> Thailand	<b>Main applicant(s):</b> Liverpool John Moores Univ., UK / Mahidol University, Thailand
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### Description of the activity:

Traditionally, most security defenses are confined within particular domains with limited channels of protection when connected to the outside. With the emerging popularity of cloud computing, the security perspectives have been dramatically changed since the cloud computing deployment allows multiple layers of connections to be accessible to provide cloud services, and the boundaries among domains become blurred. The dynamic nature of these environments complicates the task of securing them, with the services and information that we are trying to protect are distributed among multiple locations; sharing tenancy with potentially malicious systems, and communicating over infrastructure outside of our control are new concerns. Researches in cloud security, thus, cannot be confined within one organization, and the more we connected to each other, the more we learned, and the better protection of IT assets which could yield best practices. The proposed symposium aims to initiate new collaborations and expand existing collaborations between EU and SEA by providing a platform which professionals and researchers could work together. Thus, the objectives of this symposium are to:

1. Expand the existing connections between working groups on cloud security in EU and SEA coordinated by the Faculty of Information and Communication Technology at Mahidol University and its partners in SEA such as Cloud Security Alliance Thailand Chapter, and School of Computing and Mathematical Sciences at Liverpool John Moores University and its partners such as SINTEF.
2. Define a new collaborative research agenda in cloud security incorporating the computer security expertise of Mahidol University, Liverpool John Moores University, and SINTEF and the cloud computing expertise in South-East Asia.

Proposed Theme of the Symposium is : Cloud Security - from Practice to Research Collaboration. The symposium program will consist of the following activities:

1. Keynote sessions by speakers from EU and SEA
2. Parallel invited oral presentation and discussion sessions on cloud security issues
1. 3. Hands-on workshop tutorials on cloud security

## 2015 1st Joint Panel Workshop for iCONNECT for EU-SEA e-Plagiarism Battle

<b>Date:</b> 23-26 June 2015	<b>Location:</b> Malaysia	<b>Main applicant(s):</b> iParadigms Europe Ltd, UK / Monash University Malaysia, MY
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### Description of the activity:

iCONNECT stands for "International COLlaboration Network for New, Educational and Communication



Technology". The objectives for the proposed activity, 1<sup>st</sup> iCONNECT Panel Workshop for EU-SEA e-Plagiarism Battle are as follows:

1. To conduct a communicative workshop for all participants to exchange the R&D experiences, methods and mechanism used for e-Plagiarism Battle (in terms of technological choices, ICT research, socio-culture factors, development and implementation strategies) in Europe and South East Asia respectively.
2. To start up an international R&D collaborative platform and research group for new, educational and communication technology (the latest solution) to fight e-plagiarism, i.e. apply for both national and international R&D grant; recruiting PhD students for EU-SEA with co-supervisory R&D team; establishing and expanding higher education-industrial partnership for EU-SEA.

In addition to the project participants who listed in the Applicants Profile, the 1<sup>st</sup> panel workshop will extend the R&D invitation to the following leading organisations from EU-SEA:

- Acer Malaysia: Dr Daniel Tan (Senior Manager of ICT Department for Asia Pacific Acer Group).
- University of Malaya, Associate Professor Dr Aida Idris (Director of Academic Development) and Dr Ding Seong Lin (Head of Department of Applied Linguistics and Languages).
- University of Putra Malaysia: Associate Professor Dr Wong Su Luan (President-Elect, Asia Pacific Society of Computers in Education).
- UCSI University: Mr Lim Kek Keong (Head of Blended Learning).
- Monash University Malaysia: Associate Professor Dr Raj (Head of Education, School of Engineering).
- iParadigms Europe Ltd: Will Murray (Senior Vice President, iParadigms Europe Ltd)

1<sup>st</sup> iCONNECT Panel Workshop for EU-SEA e-Plagiarism Battle will be hosted in Malaysia, where project participants, invited speakers and other participants will be gathered in a 4-days workshop with presentations, brain-storming discussions and drafting up for the future R&D theme and grant proposal. There will be a pre-workshop national video competition for 'EU-SEA e-plagiarism battle'. This is meant for awareness raising for the challenging issues and for the workshop. The awards and prizes will be presented in the workshop

## First meeting for ICT focus group on well-being of people with visual impairment

<b>Date:</b> 12-14 July 2015	<b>Location:</b> Thailand	<b>Main applicant(s):</b> University of Saint Etienne, France / Chulalongkorn University, Thailand
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### Description of the activity:

This meeting gathers participants with a common interest on using Information and Communication Technology (ICT) for promoting health and well-being of people. The objectives of the first meeting are to establish research cooperation among participants: National Electronics and Computer Technology Center (NECTEC) Thailand; Faculty of Science, Chulalongkorn University, Thailand; and Laboratoire Hubert Curien University of Saint Etienne, France; and Department of Electrical and Computer Systems Engineering, School of Engineering, Monash University, Malaysia and to promote well-being of visually impaired people by ICT related research. Within the framework of the meeting, participants will share their experience, idea, previous and/or current works related to ICT. Participants may present work on behalf of research staff of their organization or their own work. At the end of the meeting, participants will discuss about the research theme for the future cooperation, scope of work for each participant depending on individual experience, timelines and a follow-up team will be set up. The meeting will be completed with visiting laboratories of participants from SEA

