



Horizon 2020
European Union funding
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IoT4Win-Internet of things for Smart Water innovative

IoT4win Project at a Glance:

- IoT4Win is a Horizon2020 Marie Skłodowska-Curie Action-Innovative Training Networks (ITN) 2017, European Industrial doctorate project under H2020 excellent science. Birmingham City University (BCU) coordinates and works along with project partners in the consortium, including ICT / IoT Technology Company from Greece and Romania, water Innovation Company from Spain and a utility in UK.

- IOT4Win project aims to develop the sustainability, security and resilience of water supply and distribution system in the face of climate change. The research addresses on the challenges, which demands increasingly intelligent approaches to the management and transport of finite water resources and future smart water networks. It creates a currently unmet demand for highly skilled and multi-disciplinary engineers and scientists who apply advanced sensors; ICT, the Internet of Things (IoT) to enable smarter water networks in an increasingly complex regulated environment.

- IoT4Win will respond to well defined and interdisciplinary scientific questions and challenges on IoTs for Smart Water Network (SWN) technological area cooperating to recruit 3 Early stage researcher (ESRs) to undertake research in the context of a joint research training on concepts and methodologies of IoT enabled SWN.

- IOT4Win brings an interdisciplinary expertise of European research group, industry partners and user organization together to offer a comprehensive set of transferable skills and a training program on ICT, data science and water engineering, including industry practice and longer-term benefit in further industrial partner collaborations and further knowledge transfer.



Events

IoT4win project website developed and launched in April 2018 at www.iot4win.eu

The project kickoff meeting was carried on successfully on BCU in 24th May 2018 in the UK. Our Deputy Dean Prof Hanifa Shah gave the welcome talk and overview BCU research.

The Project lead and coordinator Prof Wenyan Wu gave a keynote speech on overview of project scope, critical success factors, constraints and dependencies, and project management and recruitment and supervisory board and training, project milestones and finance. Dr Romano and Woodward from United Utilities Plc gave a keynote speech on water challenges and trend research in water sector, Mr Pantelopoulos from Singular logic Greece gave a talk about ICT/IOT emerging technologies and its applications. ACING sent the presentation about water related research project.



Welcome to our 1st newsletter Issue of IoT4win Project. This issue summarizes the news release, recruitment updated, events, publications, project output, funding related applications and extended partnership.



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IOT4WIN has received funding from the European Union's Horizon 2020 Research and Innovation programme under the Marie Skłodowska-Curie Grant Agreement No. 765921



<http://www.iot4win-itn.eu>



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News Release

IOT4Win project news were released on Water briefing online magazine, European Innovation Partnerships (EIP-water)-Cloud Technologies & Real time monitoring + Smart Water Network (CTRL+ SWAN) Birmingham City University (BCU) news release. IOT4Win have been awarded €761,644 (£665,966) in funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie Innovative Training Networks scheme.

Three researchers will be appointed to the scheme and PhD programmes and they will receive a couple of trainings (industrial and academic writing) to prepare them to be tasked with helping solve major issues such as water loss and water wastage.

Wenyan Wu, Professor in Advanced System Engineering at Birmingham City University lead investigator on IoT4Win, said: "With the rise in smart technology we now have a real opportunity to rethink how we view some everyday problems and can gain a level of insight into issues of water we would never have been able to get before.

"This project presents a real opportunity for us to use sensor technologies, and the growth in the Internet of Things, to transform how we look at our water systems. It is hoped that the initiative will help spawn generation of researchers in the field and create a legacy of knowledge which can help create long-term solutions for water systems across the world. Data outputs from the project will be made publicly available so that they can be used to help shape future industry initiatives and government policy. " (*details see the link below*)

1. Water briefing: <http://www.iot4win-itn.eu/660m-eu-research-project-to-use-smart-technology-to-tackle-global-water-issues/>
2. BCU: <https://www.bcu.ac.uk/news-events/news/europeanresearch-project-to-use-smart-technology-to-tackle-global-water-issues>
3. Ctrl-SWAN: <https://www.eip-water.eu/ctrlswan-support-action-marie-curie-itn-early-stage-researchers-sensor-and-iot-technology-data>.

Recruitment updates

The advertisement of three ESRs positions for IOT4win Project were published on various website

- UK job website:
<http://www.Jobs.ac.uk>
- EURAXESS Jobs Portal:
<https://euraxess.ec.europa.eu/jobs/285419>
- BCU Job website
<http://www.jobs.bcu.ac.uk/>
Ctrl-SWAN community website
<https://www.eip-water.eu/ctrlswan-support-action-marie-curie-itn-early-stage->
- Project IOT4Win website
<http://iot4win-itn.eu/>

An open transparent impartial and equitable and merit-based recruitment procedure has followed. All the applications are shared in IOT4Win group folder and shared email address: IOT4win-application@googlegroups.com. All the partners are involved in final selection and final interview.

We have completed the recruitment and two ESRs has started and enrolled PhD programme at BCU in October 2018. The ESR at SLG will start in April 2019.

The three chosen ESRs:

- ESR 1 – Essa Qasem Shahra (BCU)
- ESR 2 – Abdullah Aziz (SLG)
- ESR 3 – Haitham Hassan M. Mahmoud (BCU)



Figure 1 an illustration of Sensor networks (waterBriefing, 2018)



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Publications

The publications related to the research on smart water network and acknowledge to IOT4win project are listed below

1. Tang, Zhaozhao and Wu, Wenyan and Gao, Jinliang (2018) A Wireless Passive SAW Delay Line Temperature and Pressure Sensor for Monitoring Water Distribution System. In: IEEE sensors 2018, 38-31 October 2018, New Delhi.
2. Cox, Sharon and Wu, Wenyan (2018) Sensing Noise as an Information Object in Socio-Technical Environmental Monitoring. In: IEEE sensor conference, 28 October to 1 November 2018, New Delhi India.
3. Hu, Shiyuan and Gao, Jinliang, and Wu, Wenyan (2018) Experiment and Simulation of Ferrous Ions Diffusion at the Dead-end Branch Pipes of Water Distribution System. In: International Joint Conference in Water Distribution Systems Analysis & Computing and Control in the Water Industry, 23-25 July 2018, Kingston Ontario Canada.
4. Li, Yuanzhe and Gao, Jinliang and Wu, Wenyan (2018) Leakage discharge separation in multi-leaks pipe networks based on improved Independent Component Analysis with Reference (ICA-R) algorithm. In: International Joint Conference in Water Distribution Systems Analysis & Computing and Control in the Water Industry, 23-25 July 2018, Kingston Ontario Canada.
5. Tang, Zhaozhao and Wu, Wenyan and Gao, Jinliang and Yang, Po (2018) SAW Delay Line based Smart Sensing in Water Distribution System. In: The 16th IEEE International Conference on Smart City (SmartCity-2018), 28-30 2018, Exeter UK.
6. Radhakrishnan, Varsha and Wu, Wenyan (2018) IoT technology for smart Water system. In: The 16th IEEE International Conference on Smart City (SmartCity-2018), 28-30 June 2018, Exeter UK

Project deliverables

- Technical D1.1 Technical Report for IoT Context-Aware Framework for Smart Water Networks
- Technical D3.1 Technical Report for Cybersecurity and Data intelligence in IoT enabled Smart Water Network
- Other 8 deliverables for Project plan, recruitment and project website and project consortium agreement and project kick off meeting

Funding Related applications

Related with the IOT4Win project, BCU have submitted research bids during first year

1. Newton Fund: UK-GULF Institutional links programme M2M system and applications for Intelligent and Sustainable Agriculture.
2. Royal Society- international exchange UK-China 2018, improving data quality of IOT enabled smart water under heterogeneous network environment
3. Working to towards to submit H2020-MSCA_RISE-UrbanFlood3M bid on 2 April 2019

Extended Partnerships

1. Potential research collaboration meeting on smart sensors was held on 26th July 2018. Prof W Wu visited Prof Helmy at Department of Electrical and Computer Engineering, University of Toronto Canada
2. Potential smart water research collaboration meeting was held on 30th Nov 2018 at BCU, Prof Wu and Prof Seidu Head of Water and Environmental Engineering Education and Civil Engineering Norwegian University of Science and Technology Norway, had discussion on smart water research.
3. The research collaboration meeting with (CSIR)-Central Scientific Instruments Organisation (CISO) was held on 30th October 2018 in Chandigarh Indian. Prof Wu visited CISO for discussing H2020 EU India water quality proposal using IoT Driven solution for Water Sustainability and

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