**Project Description**

WINGS ICT Solutions is looking for experienced applicants to engage in research, design and development tasks in the context of the H2020 EU research project **ARCADIA: A Novel Reconfigurable By Design Highly Distributed Applications Development Paradigm Over Programmable Infrastructure**.

Short Description of the project:

"Given the inability of Highly-Distributed-Application-Developers to foresee the changes as well as the heterogeneity on the underlying infrastructure, it is considerable crucial the design and development of novel software paradigms that facilitate application developers to take advantage of the emerging programmability of the underlying infrastructure and therefore develop Reconfigurable-by-Design applications. In parallel, it is crucial to design solutions that are scalable, support high performance, are resilient-to-failure and take into account the conditions of their runtime environment. Towards this direction, the ARCADIA project aims to design and validate a Novel Reconfigurable-By-Design Highly Distributed Applications Development Paradigm over Programmable Infrastructure. The proposed framework will rely on the development of an extensible Context Model which will be used by developers directly at the source-code level. Proper Context-Model will be assisted and validated by IDE-plugins (for many IDEs) in order to re-assure that the generated executable files contain meaningful semantics. According to ARCADIA’s vision, the generated executables should be on-boarded by a Smart Controller which will undertake the tasks of translating annotations to optimal infrastructural configuration. Such a controller will enforce an optimal configuration to the registered programmable resources and will pro-actively adjust the configuration plan based on the Infrastructural State and the Application State. The Context-Model and the aforementioned ARCADIA toolset will be complemented by a Development Methodology that will assure that developed Highly Distributed Applications are Reconfigurable-By-Design. The framework is planned to be validated and evaluated on three use cases that will be deployed over testbeds that host heterogeneous programmable infrastructure."

**Job description**

In the context of ARCADIA project, the candidate will need to:

- Contribute to the requirements and specification of the ARCADIA framework and its components and use cases
- Contribute to the reference implementation of the smart controller and its software artifacts
- Lead and contribute to the design and implementation of the ARCADIA’s development toolkit
- Demonstrate and disseminate project results.

**Qualifications, skills, and experience**

Candidates must have a bachelor/master in Software Engineering, Computer Science, Network Engineering, Electrical/Electronic engineering. Candidates must also have strong
written and spoken communication and presentation skills, in English language. Experience in development activities and team-oriented projects is also desirable.

In addition, candidates will need to be familiar with several of the following technologies and fundamental topics:

**Mandatory**

- JAVA technologies: J2EE, JAVA Annotations, Java Reflection, JAVA extensibility mechanisms "JSR-175: A Metadata Facility for the JavaTM Programming Language" and “JSR-269: Pluggable Annotation Processing API"
- Development of distributed applications/systems
- Development environments: Eclipse IDE and/or Netbeans IDE

**Highly Desirable**

- Cloud environments and technologies (PaaS)
- Networking: Network programmability/virtualization, Software Defined Networking (SDN) technologies (Openstack IaaS, Openflow, DROP routers)

**Contact**

Candidates should send their CVs to: info@wings-ict-solutions.eu