Decide Platform Services and the Topology for Your Scenario

The goal of this assignment is to identify **application-specific services** in the scenario in the 1st assignment and the underlying **generic platform services** for the application-specific services. The application-specific services (implementing the business logic of your scenario) in the scenario must include the following parts:

- **Data sources:** data sources can be sensors (e.g., simulated sensors), data marketplaces (e.g., Azure data marketplaces, stream data platforms (e.g., Xively), or your own database-as-a-service.
- **Analytics**: An Analytics Service which will receive data from data sources and perform some data processing tasks. The Analytics Service can support streaming or batch data processing. It produces results which are stored in some data services.
- **Data Services:** Data-as-a-Service is used to store the results from the Analytics Service as well as data that you obtain from data sources (if needed)
- **Notification:** A Notification Service which is used to send notification to other services or people. Examples of notification could be: "new results are available", "new data sources are available"
- **Human Services:** People who will receive results from analytics (e.g., via Web portal, mobile device, or email) and decide possible actions (e.g., increase the cost or reduce the response time or increase the sensor sampling) by calling appropriate services.

Then you have to decide *concrete platform services* and to *specify the topology of these services* that are suitable for the application-specific services in your scenario:

- Select suitable software components/services to setup the platform for the scenario. Note that the platform includes core services, such as VMs, containers, application platform services, database-as-a-service, etc., but not the dataset or the application services/components that you will use and develop. The number of the platform services are dependent on your scenario. You should explain why you select such concrete platform services for your scenario.
- Describe a topology of services in your platform. This can be done through conceptual figures or concretely by a topology description language (e.g., using TOSCA). You don't have to deploy the platform you design but you can use existing tools to test your design if you want (e.g., using iCOMOT (http://tuwiendsg.github.io/iCOMOT/ , Chef, etc.)
- You can also revise your scenario. You don't have to update the first assignment report but you can reflect your revised scenario in the 2nd assignment by making some notes.

The report describing your selection of platform services and topology should be limited to 2 pages in IEEE computer society format template (https://www.ieee.org/conferences_events/conferences/publishing/templates.html). Optionally, you can also provide a concrete specification of the topology that can be deployed if you have (e.g., in TOSCA). The PDF report must be submitted to TUWELL based on the deadline mentioned in TUWEL. Optional topology description files could also be submitted.

Note that, before the due date of this assignment, on 15 April, we will have a presentation date. Each student will have max 5 minutes to present and discuss his/her scenario, and application-specific and platform services.