

*Abstract-*At the heart of smart factories is the issue of intelligence, and spatial intelligence is an important part of these factories: If something moves and the process is very important, you must first see where it happened. And what is it doing? Industry 4.0 describes an environment in which flexible and intelligent processes use data from sensors connected to all parts of a value chain at the same time as the event to optimize business processes. Nowadays, as the Internet of Things (IOT) provides high-volume, wide-ranging data, it is possible that when data is transferred to the Cloud for analysis, the opportunity to perform any activity on it is eliminated. Fog Computing technology provides Cloud implementation conditions near equipment that generates and operates IoT data. FOGFLOW is a fog computing-based framework for IOT smart city platform which by taking advantages of some features such as dynamically orchestrate IOT services over cloud and edges, in order to reduce internal bandwidth consumption and offer low latency and fast response time. A holding company has several factories and they want to implement "Industry 4.0" on their subgroups, using FOGFLOW framework by adding some devices such as robots and human bracelets.

I. INTRODUCTION

Collecting massive amounts of data in everyday life poses huge challenges for the user to keep control of his data in terms of managing access, sharing and protection. The industrial process requires most of the tasks to be performed locally because of delay and security requirements and structured data to be communicated over the Internet to web services and the cloud. To achieve this task, middleware support is required between the industrial. Collecting massive amounts of data in everyday life poses huge challenges for the user to keep control of his data in terms of managing access, sharing and protection. The industrial process requires most of the tasks to be

performed locally because of delay and security requirements and structured data to be communicated over the Internet to web services and the cloud. To achieve this task, middleware support is required between the industrial environment and the cloud/web services. In this context, fog is a potential middleware that can be very useful for different industrial scenarios. Fog can provide local processing support with acceptable latency to actuators and robots in a manufacturing industry. Additionally, as industrial big data are often unstructured, it can be trimmed and refined by the fog locally, before sending it to the cloud. One of the new platform which applies this kind of computations is FOGFLOW and here are some of its specifications:

- a. Context-driven orchestration mechanism
- b. Serverless edge computing
- c. Based on Docker
- d. Dynamic data orchestrator

II. ANALYSIS

In the following paragraphs we are going to explain our experiences of working with FOGFLOW.

At the first step, we faced lack of well-defined documentation and implemented instances which put users and developers in a risky situation even if they already know all the advantages of this framework and these are rooted in not being "an actual product", instead, it comes from a research lab so the number of compassionate developers to improve it, is handful.

In the next one, we tried to define a large scale scenario to comprehend its utmost capability of geo-distributed data control with low latency over the cloud.

Smart factory _The earlier referred holding company has the intention to apply some robots

and human bracelets in their factories by using FOGFLOW to control and compute the data.

A robot moves around and does some specific jobs then sends the requested data to the system and also the bracelet must be vigilant about the distance between a robot and a human to prevent a strike by triggering an alarm on the system.