Robots started in the factories by the need of taking the human repetitive tasks. Now, robots can be found in any domain, like medical, shopping, education, military, mining, research and so on.

According to Harvard University, the most robots design which are designed today, are designed to work by themselves, not working together in a team. [2]

The need of creating robots that work together in a team, take the robots industry to another level, which can allow the realization of more complex and harder task. According to researchers at Carnegie Mellon University, it is easier to build multiple robots for multiple tasks than one robot that can do everything. [3] A team of robots would also be more robust when a robots breaks, because it can be easily changed without affecting the other members of the team. [3]

Robots language is not similar with human language, they do not speak language like English. Instead, they speak a computer language that allows them to receive and transmit commands. [3] They can share information like their position, the timing for when completing a task (when they have to complete it together), to send the next action which is needed to be executed and so on.

Swarm robotics is an approach to the coordination of multiple robots as a system which consist of large number of mostly simple physical robots. [1] These robots reproduce collective behavior of animals in order to realize a task by distributing actions, for example they can reproduce the ants behavior. For finding shortest paths, ants don’t tell each other where to go, but change the environment by placing some pheromone on the way they chose. The ants, follow the most odorous path and leaving their pheromone on this way again, the other ants cooperate and after a short period, the shortest way is stabilized. [4]

[1] – *Swarm robotics* - <https://en.wikipedia.org/wiki/Swarm_robotics>

[2] – *Programmable Robots Swarms -* <https://wyss.harvard.edu/technology/programmable-robot-swarms/>

[3] – *Robots that communicate with each other* - <https://daily.jstor.org/robots-that-communicate-with-each-other/>

[4] – Swarm communication - <http://swarmrobot.org/Communication.html>

<https://patents.google.com/patent/US6604021B2/en>