# Communication Approach for Swarm Intelligent Robotics

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**Abstract.** Swarm intelligence is a concept that studies decentralized, self-organized systems that can move quickly in a coordinated manner. In nature, swarms occur naturally scientists have studied natural processes such as ant colonization, bird flocking and animal herding to learn how those discrete biological agents work together with their environment to perform a common goal. In robotics, swarm intelligence involves taking what scientists have learned from observing nature and applying the concepts to machines. Swarm intelligence studies the collective Behaviour of Systems composed of many individuals who interact locally with each other and with the surrounding environment, using forms of decentralized and self-organized control to achieve their objectives. When it comes to autonomous robots there was a negative point which that they are suffering from lacking capabilities which they need human intervention to complete the task SI solve the above problem. Swarm robotic is an upcoming topic in the fields of science and technology as a spark that is going to connect natural behavior with technology. This is a collection of robots that will cooperatively work to achieve tasks that have common concepts of behaviors that can be observed in nature. Though Swarm intelligence has an appreciable place in software point of view, once it comes to Robotic and Automation SI is in a primary age, where it's still at the development level. To overcome the above-mentioned problem, it's my wish to introducing a Communication infrastructure that can work with various types of Hardware platforms, implement a Standard Protocol for Communication between Hardware devices and let them make Distributed Decisions. Therefore, I aim to explore the existing primary hardware implementations of swarm intelligence, identify its difficulties, benefits and explore possible applications that use swarm intelligence using robotics.

***Keywords:*** *Swarm Intelligence, Swarm robotic, Machine to Machine Communication*