

## **Role of IOT in improving global competitiveness for Forging industry**

IOT is the new buzz word in the industry. Every other WebEx is on IOT and IOT means Internet of Things. It is projected as the next big industrial revolution which will change the way world will start working.

So what is IOT? And what it means for the forging Industry? The Internet of Things (IOT) refers to the ever-growing network of physical objects that feature an IP address for internet connectivity, and the communication that occurs between these objects and other Internet-enabled devices and systems.

The Internet of Things extends internet connectivity beyond traditional devices like desktop and laptop computers, smartphones and tablets to a diverse range of devices and everyday things that utilize embedded technology to communicate and interact with the external environment, all via the Internet.

### **So what is the relevance of IOT in forging?**

Forging industry is undergoing competitive pressures. There are several wastages in the process due to no real time information and decision making. Forging equipment is expensive and they are meant to forge product rather than standing still. It means the utilisation of the equipment has to be improved and all kinds of wastages have to be eliminated. This can happen by eliminating delays due to in action or delay in decision making by man. So how IOT helps? It improves the communication between machines tools, auxiliary machines etc. in real time so that corrective actions are taken in real time without the intervention of man where ever possible.

Let's take an example of flash less forging. The forging has to be located exactly in the centre of the impression and hence the upsetting pancake diameter is the critical factor. An offset upset preform can break the die or over load the press. The diameter of upset shall depend on the die height, temperature of billet and weight of cut blank. So we fix a sensor which measures the diameter of upset in real time and gives signal to upset die which goes up and down and changes the diameter of upset pancake as required. Now this communication can happen directly without involving the cloud or data can be transmitted through cloud and a history can be maintained for long time giving various information that can be linked to quality documents like FMEA etc.

Similarly information regarding the volume of die impression can be given to cutting machine and the cutting machine can cut as per requirement of the die and history is maintained. Now if the plant head is sitting in Germany and he wishes to know his plants performance he can just log in through internet and make some corrections or the machine manufacturer can make some corrections sitting at a remote place.

This will improve tool life, up time of machine and improve competitiveness of a factory etc.

This paper will deal on various aspects in forgings which can improve the competitiveness by using IOT techniques and real time information and corrective actions. **Dr Vasant Khisty Sammy Consulting**