MANUFACTURING SKILL STANDARDS COUNCIL

Definition of Data Analytics

Data Analytics is a process of inspecting, cleansing, transforming, and modelling data with the goal of discovering useful information, informing conclusions and supporting decision-making. Data analytics software is increasingly widespread.

In manufacturing, the main value of data analytics is to uncover critical information to enable more efficient operations on the shop floor. Typical use cases for manufacturing are:

- **Predictive maintenance**. Knowing when a part is going to break reduces downtime and waste. By analyzing factors that drive the wear of your devices, companies gain transparency on the real lifetime of their products.
- **Automatic quality testing.** Automating this task saves time and helps avoid human errors. Instead of using manual checks, quality can be tested incorporating data from special test devices, X-ray scans, photography, etc.
- **Product optimization**. Understanding what drives the quality of production avoids waste and improves the overall equipment effectiveness.
- **Supply chain optimization**. Anticipating the right time to produce orders or plan shipping dates enables on-time delivery and resolves storage issues. Analyzing the duration of individual processes and the complex interdependencies among them provides information about transportation times and the impact of disruptions.

Source:

https://thrive.dxc.technology/eur/2019/01/14/big-data-analytics-in-manufacturing-how-do-we-leverage-existing-data/