Today, manufacturing – converting raw materials into something with a greater use or value – is a huge driver of the global economy. Adding simple efficiencies to the workstream further increases value by making more goods with fewer materials or fewer worker hours. And as companies finish more products at a faster rate, there's added profit across the business chain.

Before the Industrial Revolution, most products were handmade using human labor and simple tools. This process took a long time. With the development of mechanization, steam power, and the assembly line, manufacturing became fast and efficient. This led to mass production, where unskilled workers could be trained to perform a single specific task rather than build an entire product themselves, which reduced labor costs. By breaking down the steps and putting them in a pre-defined order, an assembly line allows companies to create parts that can be used interchangeably and allows a finished product to be made faster. This is most common in mass production, where unskilled workers can be trained to perform a single specific task rather than build an entire product themselves, which reduces labor costs. For example, Intel takes sand and heats it with magnesium powder, a manufacturer converts that raw material into silicon. This process creates the key ingredient found in the semiconductor chips that power the computers we use every day.

Manufacturing creates jobs and develops economies. It enables companies to convert raw materials into more complex goods, which fuels businesses worldwide. The skills required to operate machines and develop manufacturing processes are typically high-end skills that require specialized training and development. Today, manufacturing activities such as assembly line and broad networking, robotics, digital machines, and advanced manufacturing processes, including system integration, smart processes, and advanced automation, are changing the landscape of the manufacturing world.