**Virtual Machine Exercise**

**Learning Objective that this exercise assesses:**

“How To Build Symbol Maps In Tableau To Visualize Your Manufacturing Footprint”

**Context that engages the learner and explains why they are doing this exercise**

It is important to use a symbol map within Tableau because symbol maps allow users to incorporate several variables (measures & dimensions) into a visualization while also easily conveying location. We first want to visualize where all our manufacturers are to get an idea of the overall spread of the manufacturing portion of the Supply Chain. The company would also like to know which factories make the most goods while also knowing things such as the average distance to a DC and average manufacturing time easily. By using a map, the company can quickly see inefficiencies such as manufacturers shipping products to DCs that are large distances. This could lead to DCs ordering more products from the manufacturer and holding inventory to reduce shipping costs.

* 1. **Bulleted Instructions**

1. Create the Map**:** Drag *‘Factory Long’* to columns & Drag *‘Factory Lat’ t*o Rows
2. Create the Coloring & Sizing: Drag *‘Quantity (Manf. Purchase Orders)’* to the Color & Size Marks
   1. Adjust sizing of dots to best match screen
3. Create Labels: Drag *‘Factory Country’* and *‘Quantity (Manf. Purchase Orders)’* to the Label Mark
   1. Change label of *‘Quantity (Manf. Purchase Orders)’ to a % by selecting dropdown of the green pill in the marks card, and selecting ‘quick table calculation’ 🡪 % of Total*
4. Create Tooltips: Drag ‘*Manufacturing Time (Days)’* & *‘=Shipping Time (days)’* into the Tooltip Mark
   1. Change aggregation of fields to Average from Sum
5. Change Map Background Maps to Dark: Select Map in top toolbar 🡪 Background Maps 🡪 Dark
6. Change color of dots: Select color mark 🡪 Edit Colors… 🡪 change the ‘Palette:’ to Orange

**Exercise question:**

**Which factory had the highest quantity of orders manufactured?**

**Answer: Germany**

**Which factory had the lowest quantity of orders manufactured?**

**Answer: Vietnam**

**Which factory had the slowest average shipping time?**

**Answer: Indonesia 21.2 Days**

