## T1．2 Allocation with Objective

|  |  | Format | Formula | Summary | Applies To |
| :---: | :---: | :---: | :---: | :---: | :---: |
| T1．2 Allocation with Objective |  |  |  |  |  |
| INPUT |  | No Data－＂＊ |  | None | － |
| Customer Orders |  | Number |  | Sum | － |
| Line Capacity | 䧃 | Number |  | Sum | T1 Production Line |
| Variable Cost per Unit | 䧃 | Number |  | Sum | T1 Production Line |
| VARIABLE |  | No Data |  | None | － |
| VAR Quantity Produced | 䧃 | Number |  | Sum | T1 Production Line |
| CONSTRAINTS |  | No Data |  | None | － |
| C1 Meet All Customers Orders |  | Boolean | VAR Quantity Produced＝Customer Orders | All | － |
| C2 Line Capacity Not Exceeded | 䧃 | Boolean | VAR Quantity Produced＜＝Line Capacity | All | T1 Production Line |
| OBJECTIVE |  | No Data |  | None | － |
| Total Variable Cost | 䧃 | Number | VAR Quantity Produced＊Variable Cost per Unit | Sum | T1 Production Line |



The variable we are optimizing is what quantity should be produced on each line．


Constraint C1 dictates we must produce the exact quantity of customer（no dimension，so just overall） Constraint $\mathbf{C} 2$ constrains the quantity each line can produce to below or at its max capacity


T1 Production Line

The objective we are minimizing is the sum of all variable costs，Sum（ Quantity Produced per Line＊Variable Cost per Unit）． It＇s dimensionalized by production line because the input Variable Cost per Unit varies by line．
If this wasn＇t specified，Optimizer would minimize（Sum of quantity produced across all lines）＊（Sum of all variable costs）


