

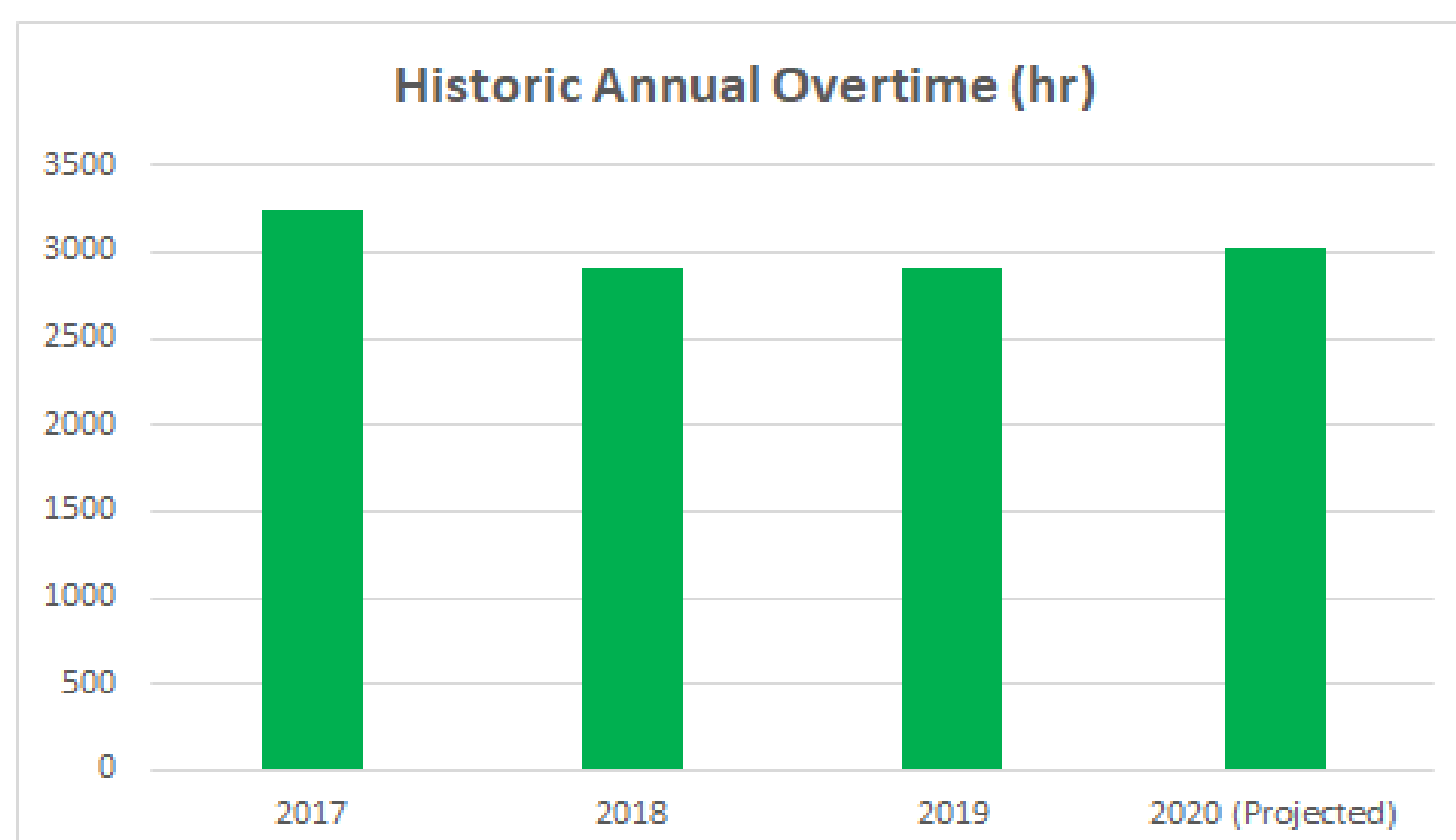
Company Background

- Founded in 1987, Global Metal Finishing is a multi-line aluminum anodizing and precision hard coating facility located in Roanoke, Virginia
- It specializes in providing consistent, uniform coating of complex geometric parts
- GMF provides high quality finishing services to several industries throughout the United States



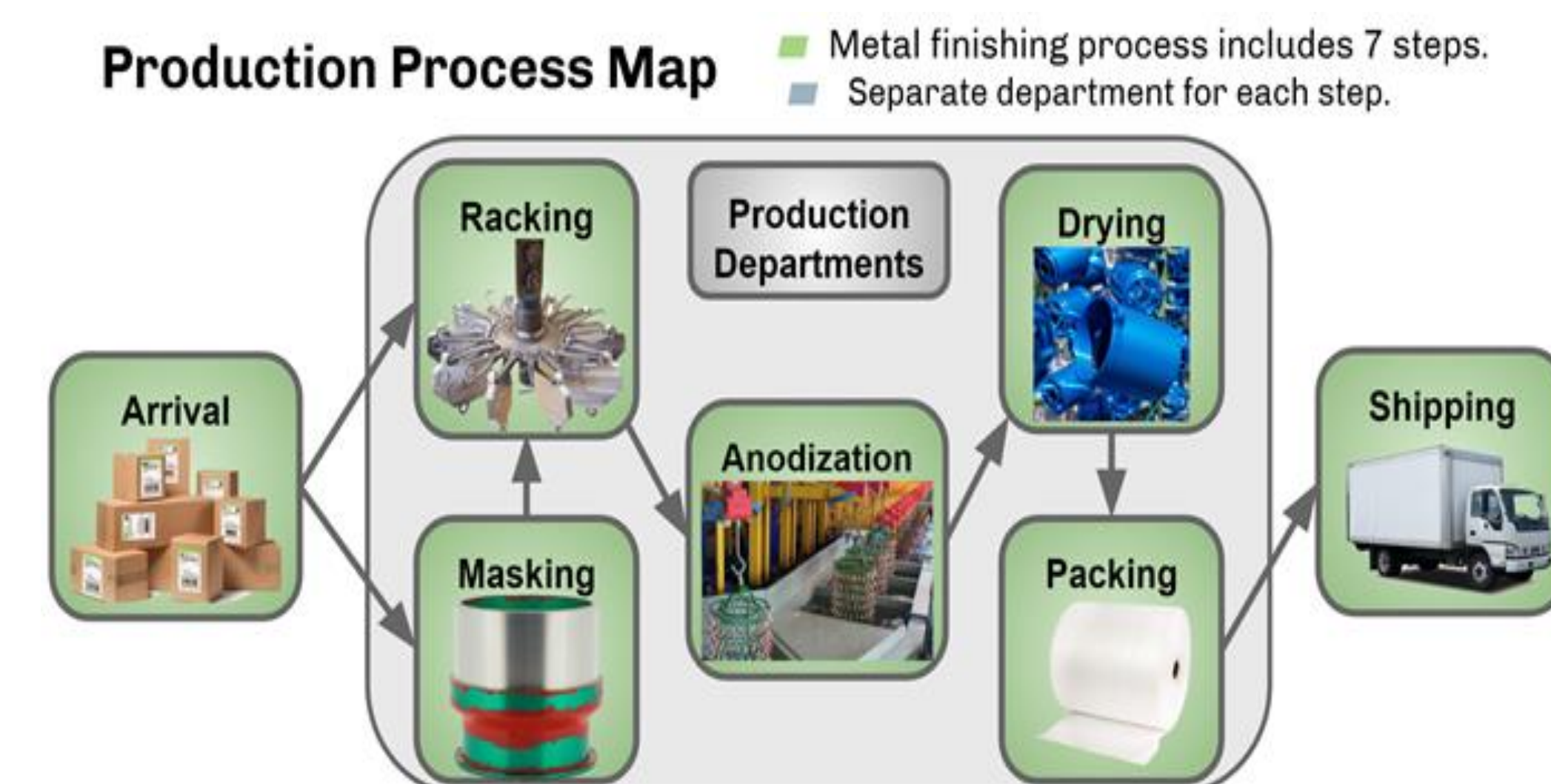
Problem Statement

- Global Metal Finishing's **production demands fluctuate** significantly week by week
- Production demand variability creates imbalances in the **daily workload** in Masking, Racking, Drying, and Packing departments
- These **departments often require overtime** to finish their work



Project Description and Deliverables

Goal: Reduce Overtime in Masking, Racking, Drying and Packing departments by 30%.



- Implement Cross Training
- Recommend Equipment Improvements

Example Manual Page

3. Begin drying parts.
Maintain safe distance (~1 ft) between dryer and parts to avoid blowing parts off rack or splattering water.

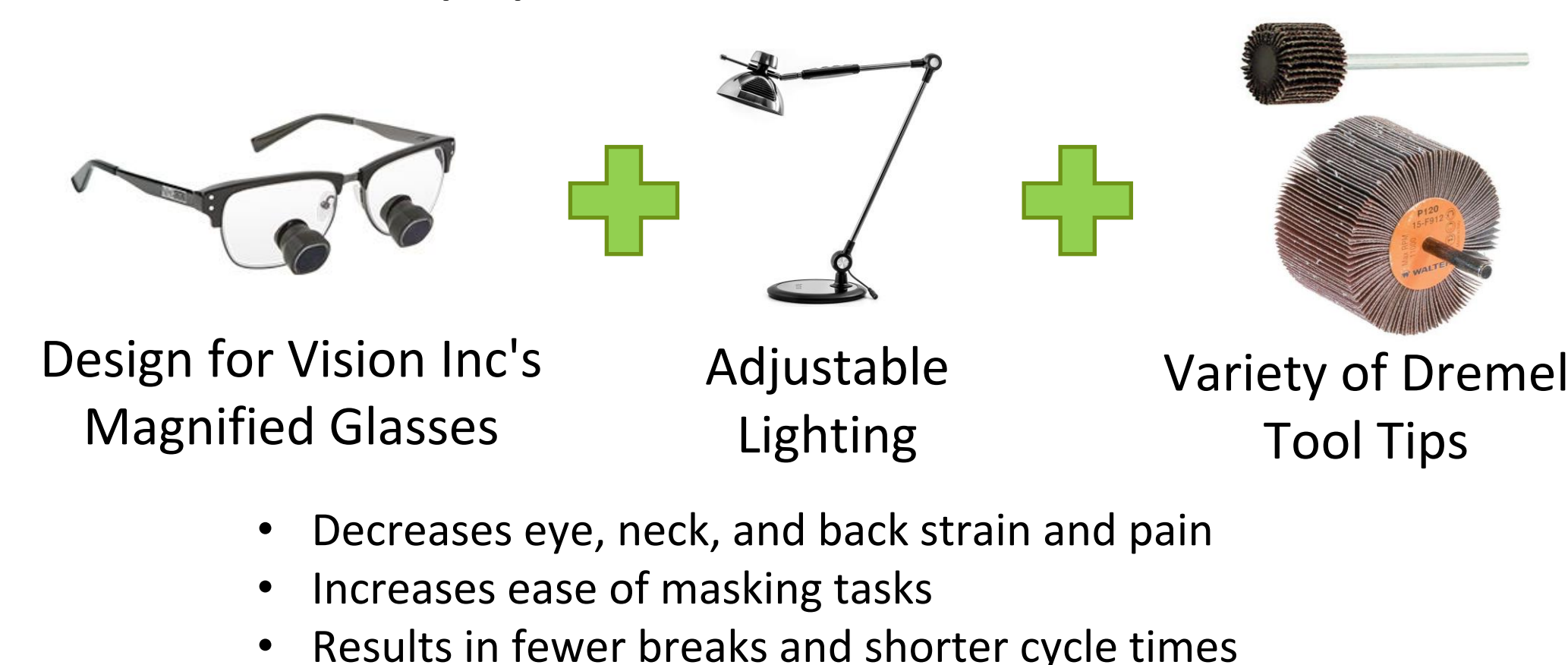


4. Check that surfaces, holes, grooves, etc. are all dry.
Parts must be **completely dry**. **Wet parts cause uneven finishes that customers do not like.**
Consequences: Re-anodize parts and **more work for everyone.**

Example Check Sheet

Dry to Pack Reference Sheet		
Section In Manual	Task	Tips
1.1 - 1.3	Move finished racks to the drying area and begin drying with a handheld blower.	Hold the blower 1 foot from the pieces. Make sure you are not blowing liquid from one rack onto another.
1.4	Check that all parts are properly dried.	Look at all grooves, holes and surfaces to ensure all are dry.
1.5	Move dried parts to the inspection area.	Double check that all parts are dry.
1.6	Complete necessary paperwork.	See manager (Ashlynn for instruction).
2.1 - 2.2	Bring rack from slating area to the workstations. Carefully remove parts from the rack and ensure parts are dry.	Avoid scratching parts and place parts on foam sheets. Use a dry microfiber rag to remove residue leftover from drying.
2.3	Use isopropyl alcohol or a warm water rinse to remove blemishes from the anodizing process.	Start with isopropyl alcohol. If that does not work use warm water rinse. Use sponges to remove lacquer (masked parts).
2.4	Decide if parts are up to standard. If you are unsure, ask your manager (better to be safe than sorry).	See manual for examples.
2.4	Is the blemish removed?	• Blemish remains, place red tape indicating defect and put aside for further inspection
2.5	Wrap parts in styrofoam sheets	Extra padding should be used for parts shipping through UPS.

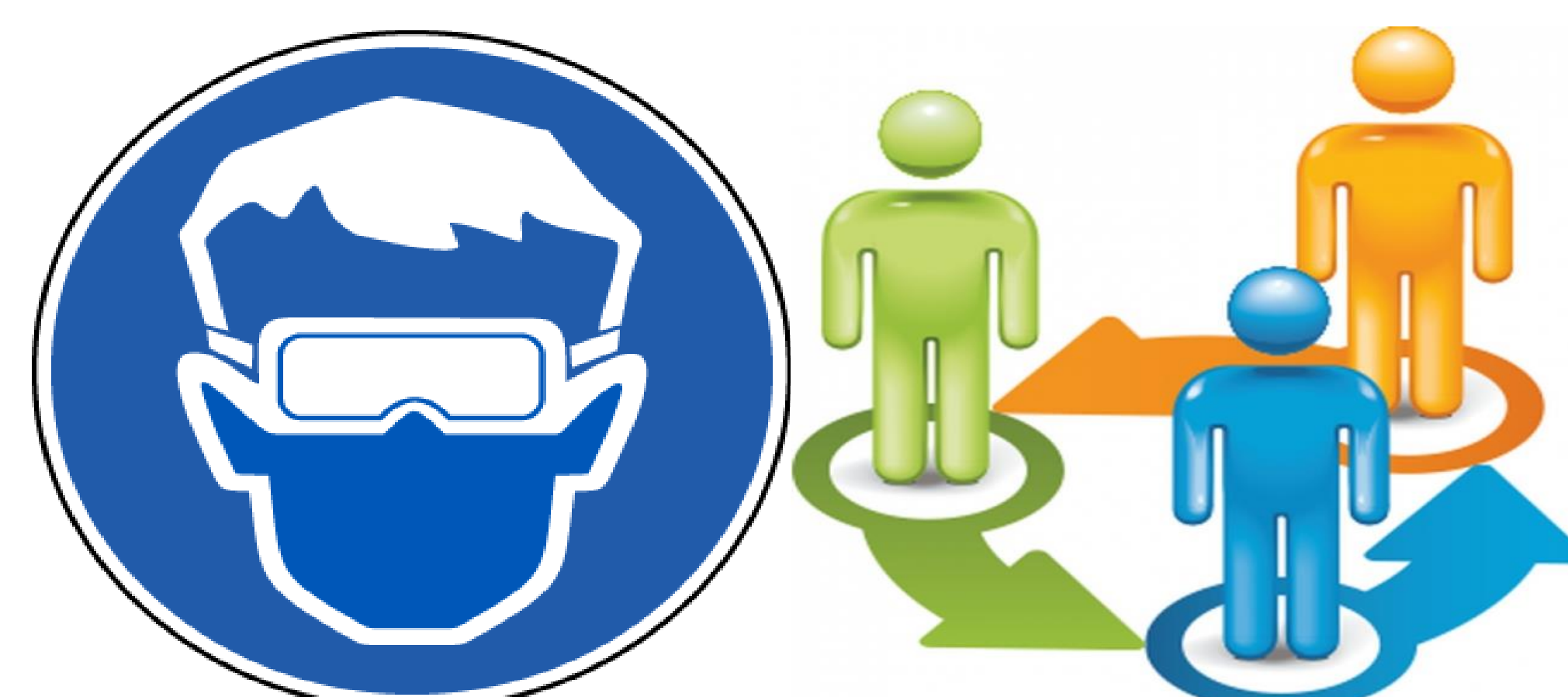
Equipment Recommendations



Impact

Total Annual Impact = \$120,000

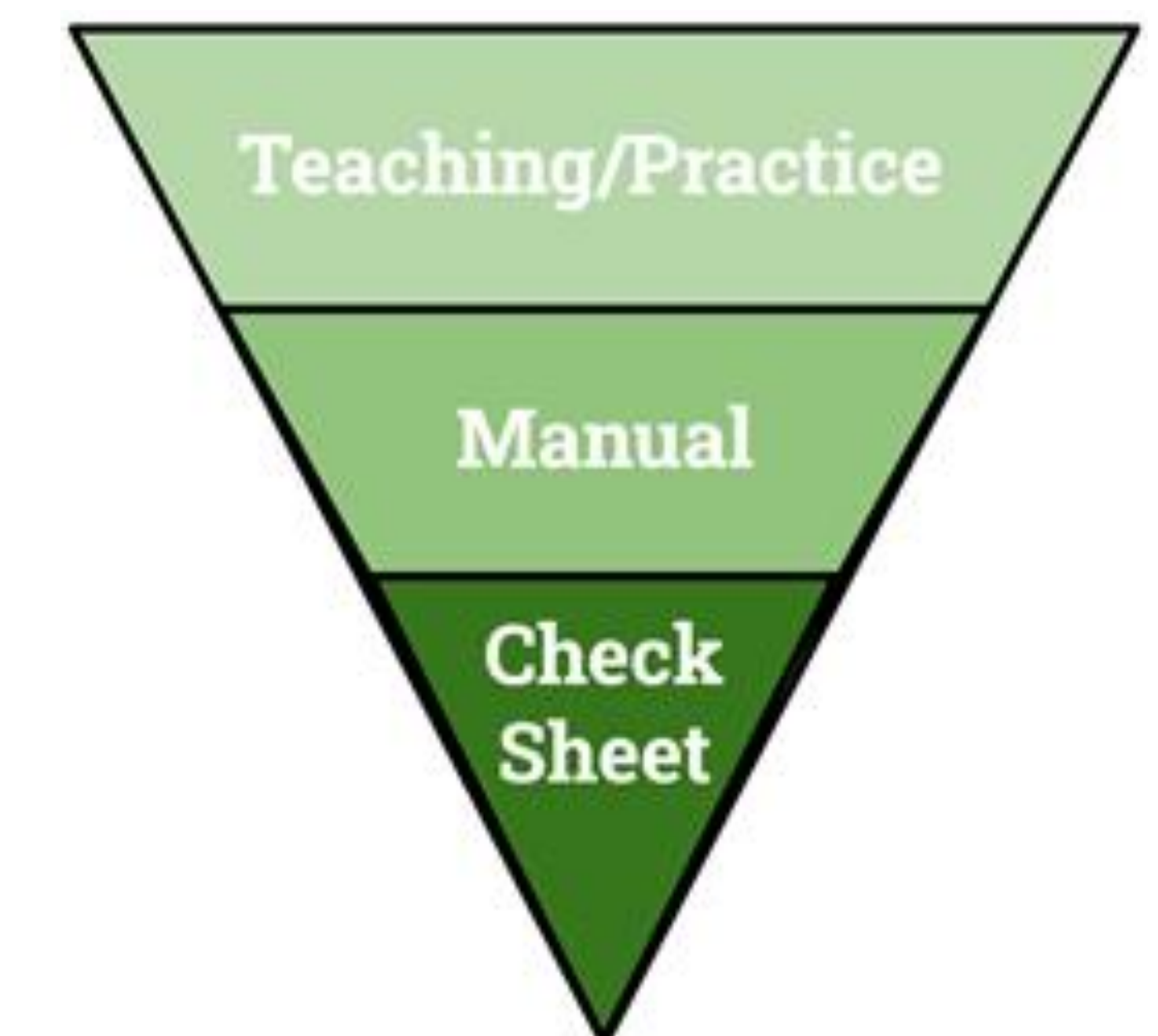
- Growing revenue has increased yearly overtime hours
- Cross trained employees enable the company to avoid two addition personnel hires in the future
- This results in a saving of \$50,000 X 2 = **\$100,000**



- Cross trained employees provide a flexible workforce advantage
- Equipment recommendations improve H&S standards

Cross Training Approach

- Three-part training system
- Covers Masking, Racking, Drying and Packing
- Printed Manuals and Check Sheets are located in each department



Implementation

- Use a heuristic method to determine capacity and workload by department
- Redistribute cross trained employees to better fit capacity to workload

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Cross Training Utilization
When and How to implement your cross trained employees

Proactive Planning (best to do at the beginning of each week to determine if help is needed before it is urgent or overtime is necessary)
When to utilize cross trained employees:
(for a worked out example of steps 1-3 below, see example back of this packet)

- Assess your department's workload and timeline.
 - Determine what sets of pieces your department needs to finish in a specific time period (i.e. today, Monday to Wednesday, this whole week, etc.).
 - Write down this number of each piece that must be completed.
 - Write down the time period (in number of days) you have to complete each of the sets of pieces you identified in 1.a.
- Assess your department's capacity for this time period.
 - Determine the number of workers you plan to have available and the number of hours each of them will work in the time period identified in 1.c.

- Purchase and make recommended equipment available to the masking department