Steps for Planning Your Automation Project

1. **Define Automation Needs**
   - Why automate? Are you fulfilling a need, solving a problem, or is it simply for a competitive advantage?
   - What current processes are you looking to automate?
   - Your output volume: how much is your facility currently producing, and what are your target goals?
   - The human factor: how will your employees train on and interface with the new automation equipment and processes? Will your employees need to be retrained or new employees hired to operate the new equipment?

2. **Determine Processes & Rates**
   - What percentage of your overall costs are spent on labor and what percentage on parts?
   - The rate of production: Will the automation cell put together a product as fast or faster than your previous method?
   - The quality of the product: Are inconsistencies being reduced or eliminated via automation?
   - The cost of labor: How much will you save by supplementing or replacing human workers with automation cells?

3. **Identify Environment**
   - The requirements for automating a medical device production facility, for example, will differ from those of a woodworking shop.
   - Are you running a light industrial operation? Is the work performed in a cleanroom?
   - From there, you will want to consider the manufacturing environment.

4. **Upstream & Downstream Processes**
   - Will the product be going to another process, or to packaging?
   - Will the packaging also be automated?
   - Will the parts be sorted and oriented prior to entering?

5. **Acceptance Criteria**
   - What are the acceptance criteria? Are you looking for an in-process audit or a final test?
   - Uptime, or how long the machinery runs without operator intervention
   - The level of scrap material produced
   - A targeted rate of production
   - A targeted rate of production
   - The human factor: how will your employees train on and interface with the new automation equipment and processes? Will your employees need to be retrained or new employees hired to operate the new equipment?

6. **Review The Economics**
   - What's the ROI? Automating a manufacturing process is a major decision for any business, so you'll want to be sure that it's worth the investment.

7. **Select Concepts & Proposals**
   - What are the key indicators that automating a process will give your business a competitive advantage?
   - Why automate? Are you fulfilling a need, solving a problem, or is it simply for a competitive advantage?
   - From here, you can begin to generate your user requirement specs.