

## Needs Assessment (Final)



**Note:** Needs are ranked based on how important they are with respect to meeting the top-level goal of this project.

Customer Need	Need Status	Ranking #	Explanation
Measure both sides of a part simultaneously	Critical to project success	1	This is the top-level goal of this project
Motorized LightGage head positioning	Negotiable	5	This is a proof-of-concept—manual head positioning is OK if scope needs to be narrowed.
Accommodate part thicknesses from 1mm to 100mm	Customer spec.	2	While not critical, this is one of the key goals of this project.
Ease of use for end-user	Negotiable	4	This is a proof-of-concept—customer likely to further refine concept after MSD. The MSD timeline may limit the degree to which we can achieve this.
Low complexity	Critical to meeting MSD timeline	2	Product must be sufficiently simple as to be completed within the MSD timeline.
Small form factor	Customer spec.	8	Customer would <i>like</i> relatively portable form factor. Not critical
Short setup time	Customer spec./Negotiable	5	This is a proof-of-concept—customer may relax specifications if necessary to complete within timeline.
Fast part measurement	Negotiable/Dependent on customer hardware	6	This is a proof-of-concept—measurement time depends mainly on the hardware given by the customer. Our control of this is minimal.
Environmental isolation (thermal, optical, etc.)	Critical to project success	1*	Isolation is critical to being able to measure a part—inherent in design challenge.
Repeatable Measurements	Customer spec./Negotiable	3	Product must pass customer acceptance tests—requirements may be relaxed somewhat depending on circumstances.
Polarized light between LG heads	Critical to project success	1*	Cannot measure parts unless light is polarized—one sensor will blind the other. Critical to top-level goal.

\*Needs that MUST be satisfied in order for system to operate at any level—these are fundamental to LightGage operation.