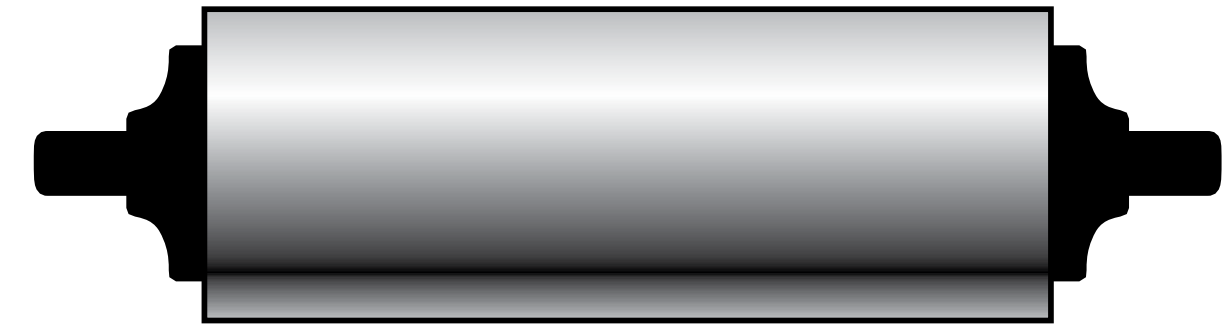


DESIGN OF EXPERIMENT (DOE)

PRECISION



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**WEBINAR
SERIES**

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WHAT IS A DOE?

- Helps you investigate the input variables on an output variable.
- Use to identify process conditions and product components that affect quality.
- Determine factor settings to optimize results.

Create Factorial Design: Display Available Designs

Available Factorial Designs (with Resolution)

	Factors													
Runs	2	3	4	5	6	7	8	9	10	11	12	13	14	15
4	Full	III												
8		Full	IV	III	III	III								
16			Full	V	IV	IV	IV	III	III	III	III	III	III	III
32				Full	VI	IV	IV	IV	IV	IV	IV	IV	IV	IV
64					Full	VII	V	IV	IV	IV	IV	IV	IV	IV
128						Full	VIII	VI	V	V	IV	IV	IV	IV

Available Resolution III Plackett-Burman Designs

Factors	Runs	Factors	Runs	Factors	Runs
2-7	12,20,24,28,...,48	20-23	24,28,32,36,...,48	36-39	40,44,48
8-11	12,20,24,28,...,48	24-27	28,32,36,40,44,48	40-43	44,48
12-15	20,24,28,36,...,48	28-31	32,36,40,44,48	44-47	48
16-19	20,24,28,32,...,48	32-35	36,40,44,48		

Help OK

DOE BENEFITS

STARTUP BENEFITS

- Initial startup can take days to reach optimal settings.
- Save time and set machine to ideal conditions.

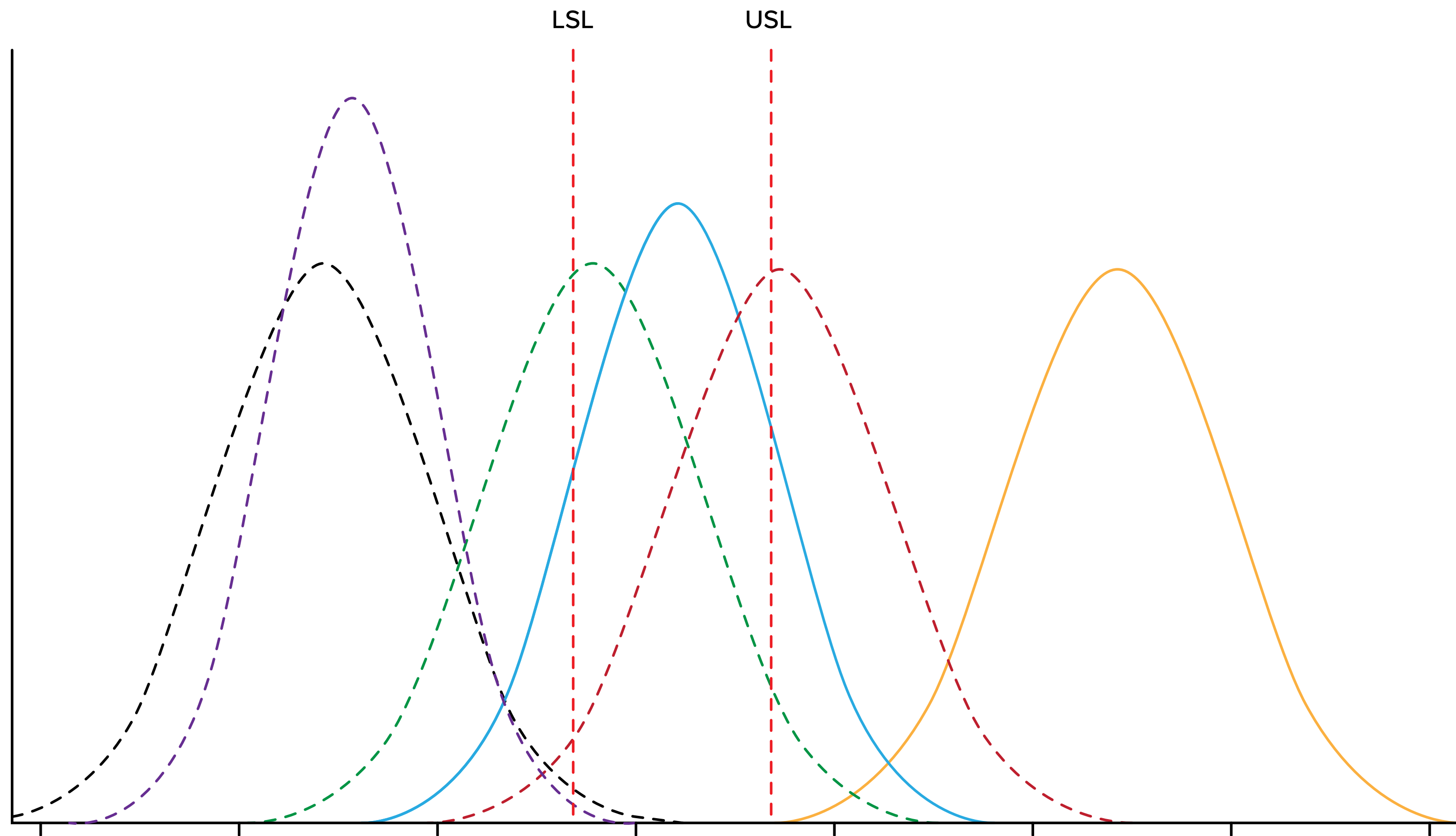
OPERATOR ADJUSTMENTS

- Adjustments to parameters may or may not impact quality.
- Make changes more predictably with different input variable.

TROUBLESHOOTING BENEFITS

- Having predictable changes caused by different input variables leads to understanding system changes better.
- Can reduce amount of time to troubleshoot unexpected issues.

HOW DOES THIS HELP?

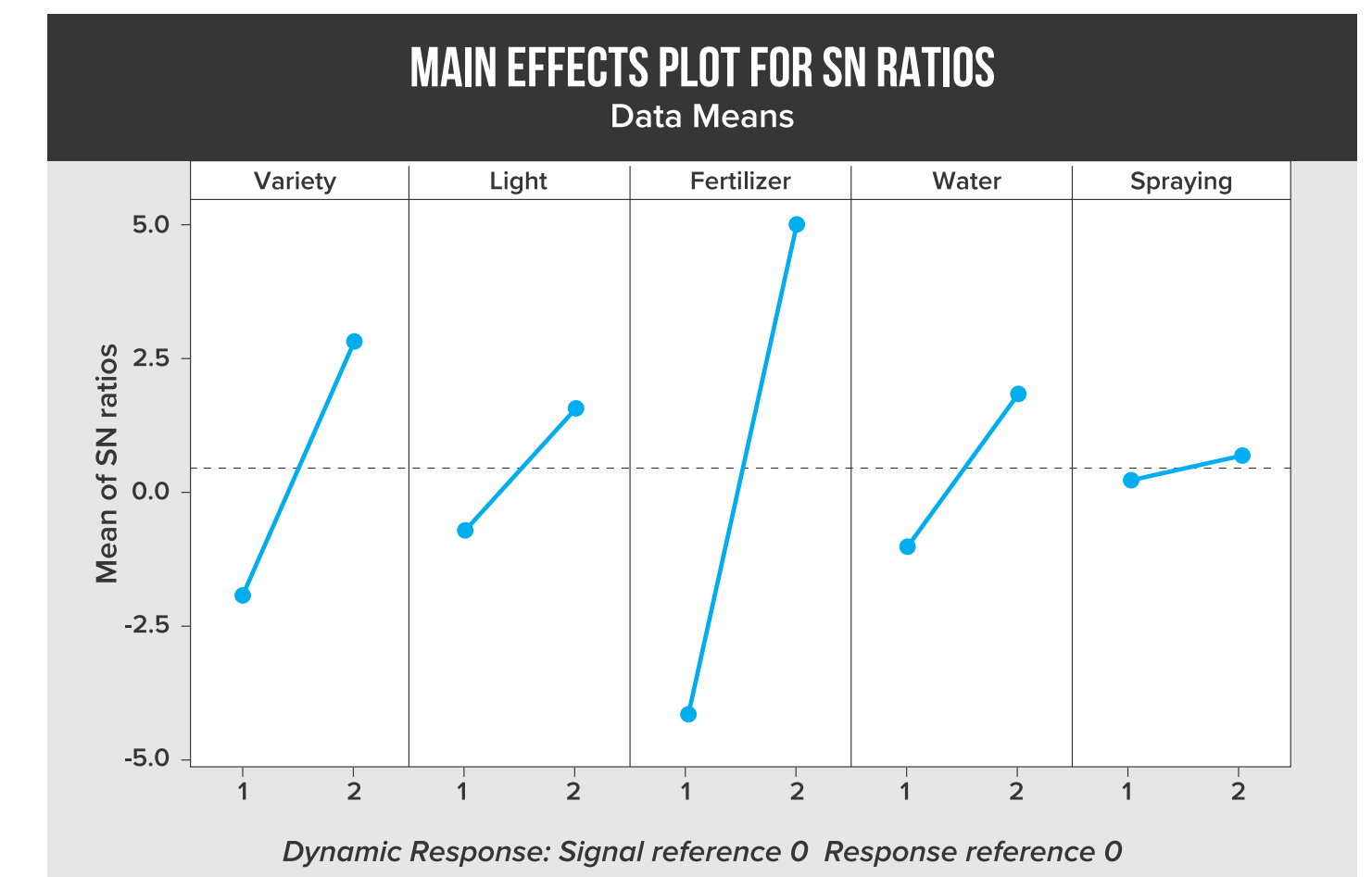
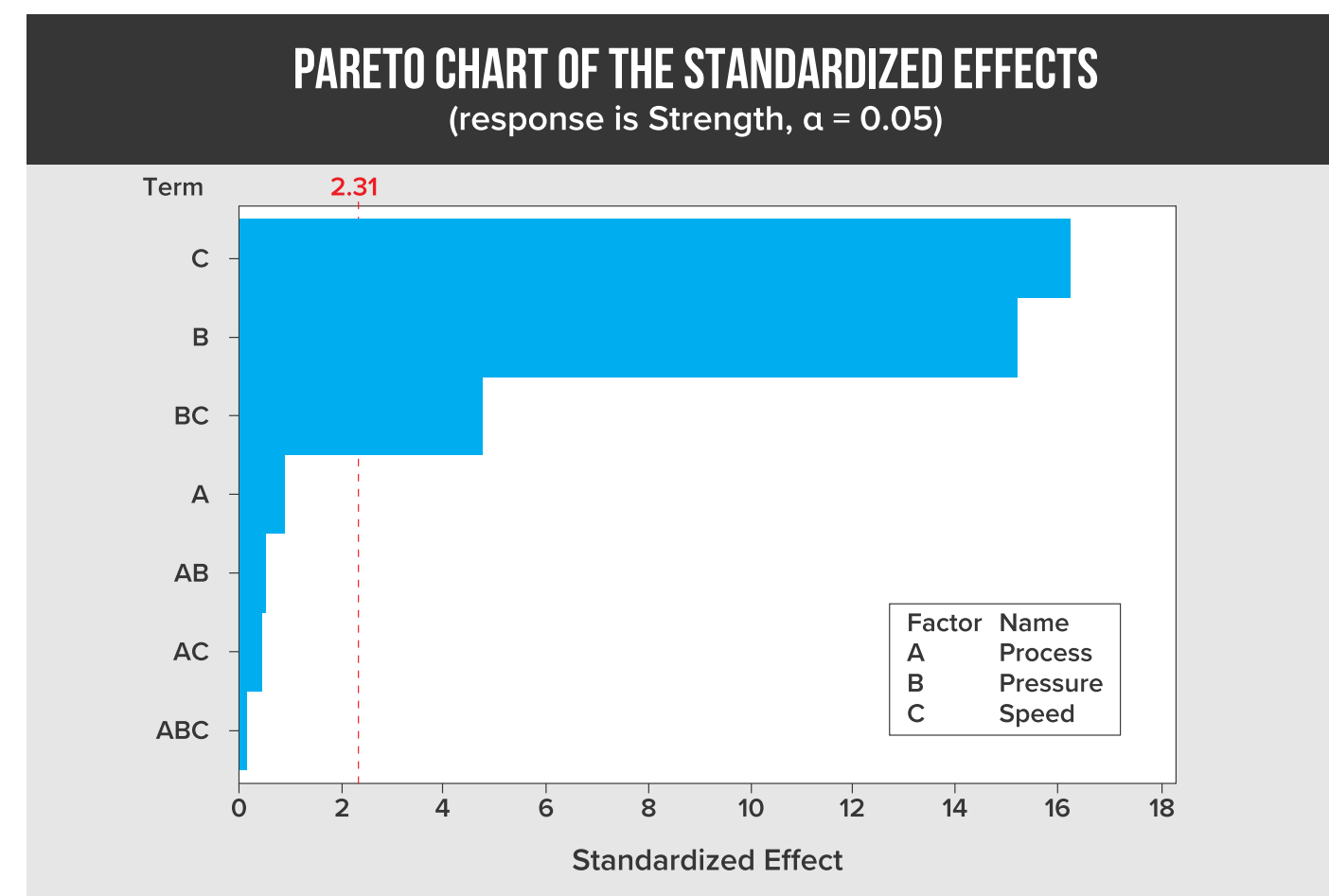
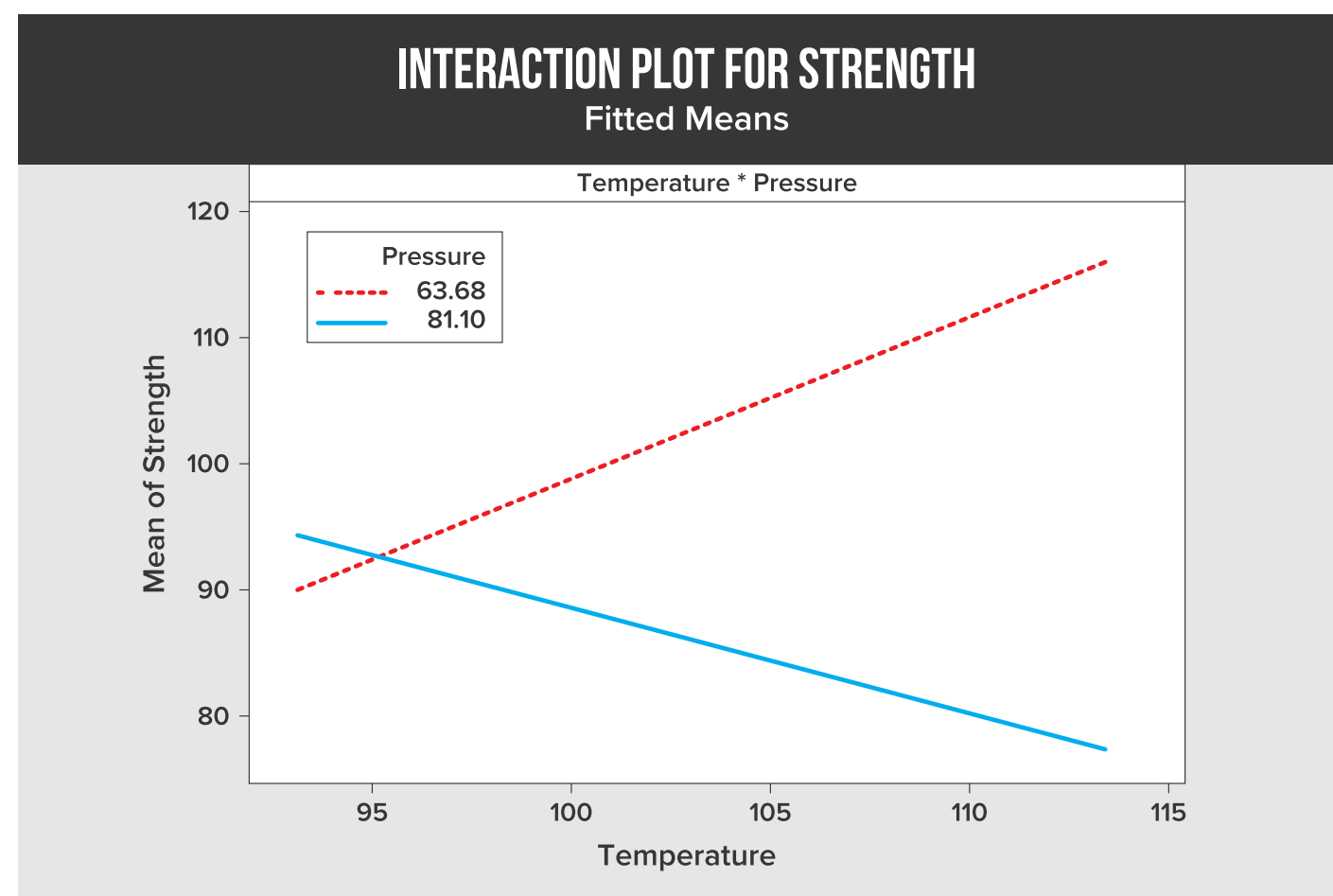


DOE STEPS

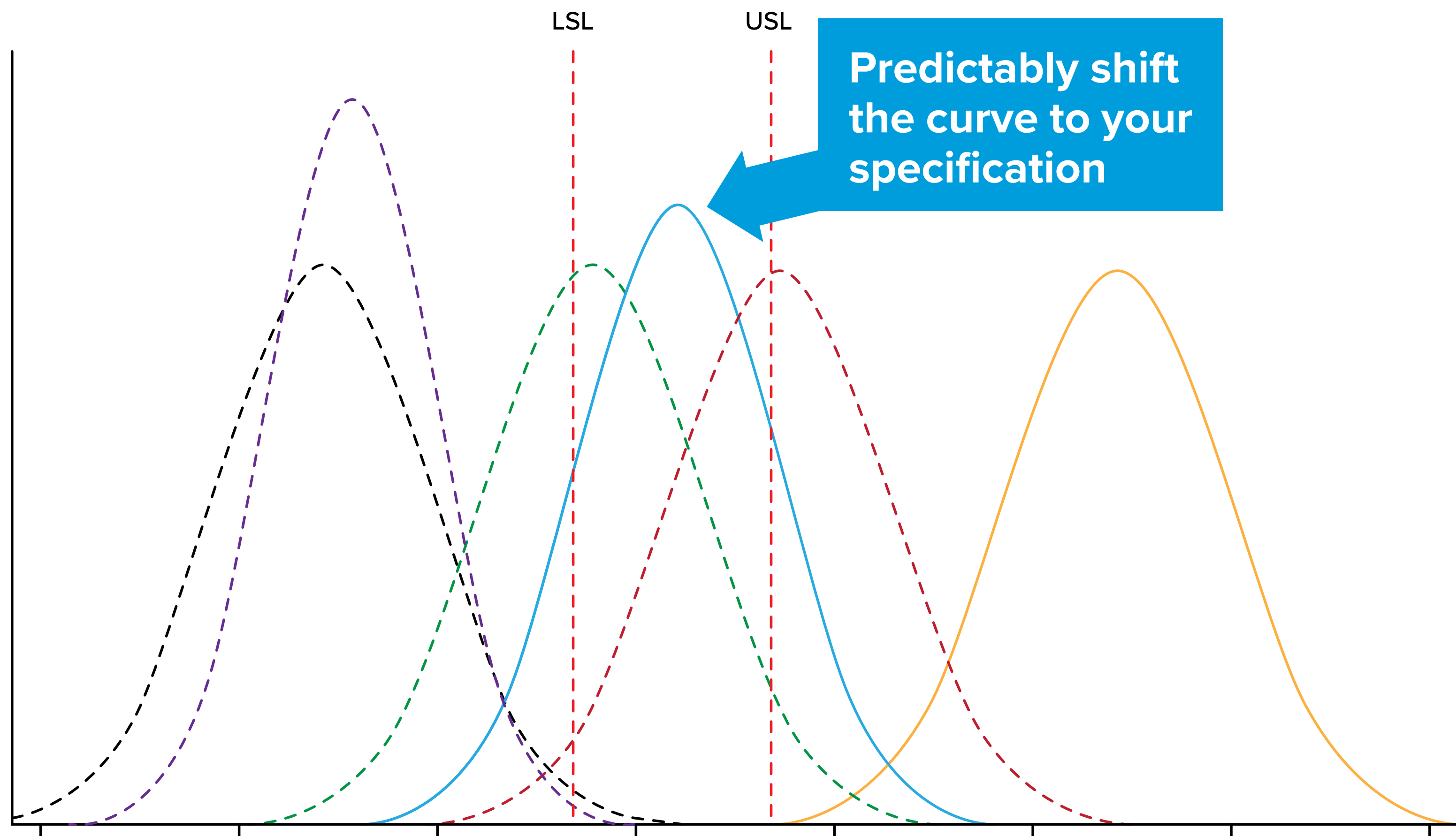
- **Set your objectives**
- **Choose your process variables**
 - Noise variables
- **Experiment design**
- **Execute the design**
- **Verification runs**

DOE ANALYSIS RESULTS

- Interaction plots
- Significance
- Main effects



PROCESS IMPROVEMENT



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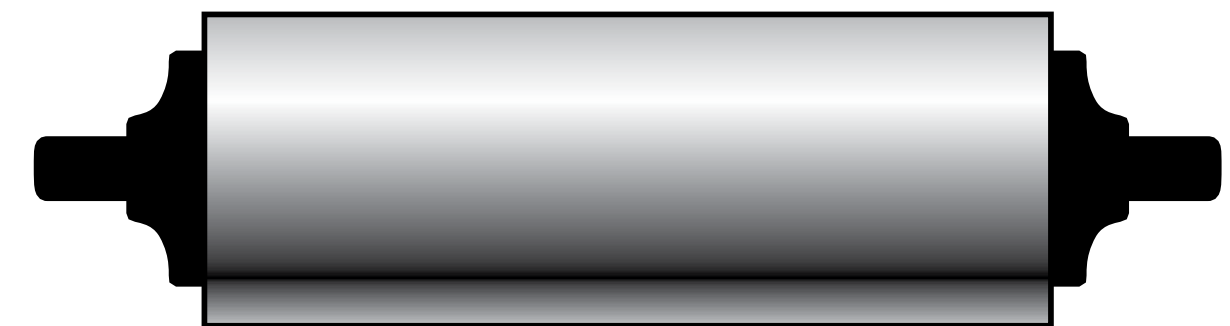
(870) 216-4000



**THANK YOU FOR
YOUR TIME.**

QUESTIONS?

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