



Advanced Manufacturing Students on Engineering Capstone Design Teams – A First Look

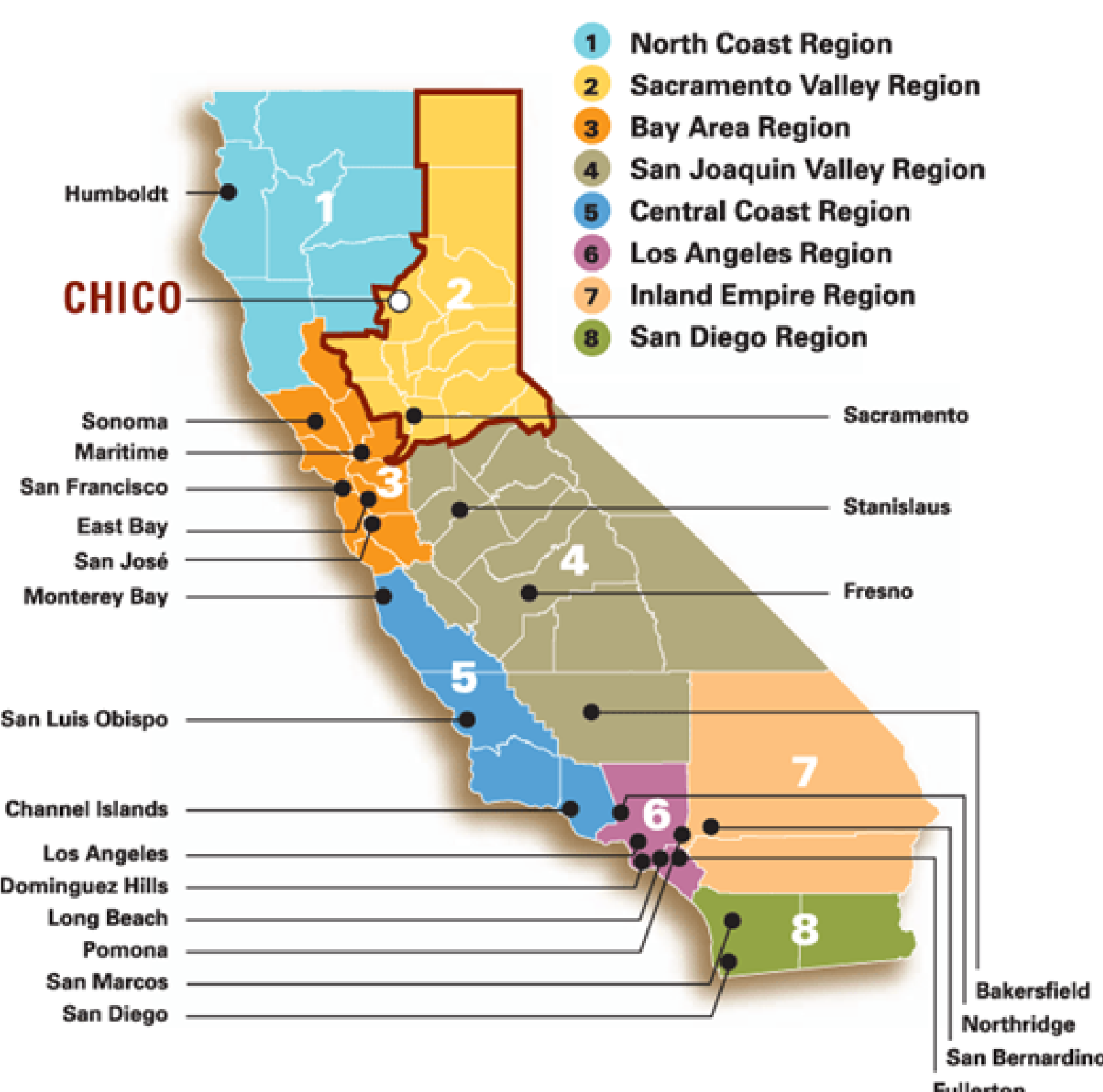
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Background

- Existing Capstone program in Mechanical and Mechatronic Engineering
- Projects predominantly sponsored and funded by outside companies
- New (redesigned) program in Advanced Manufacturing and Applied Robotics (AMAR)
- Students in the new major take the same capstone course alongside the engineering majors

Cal State University Chico

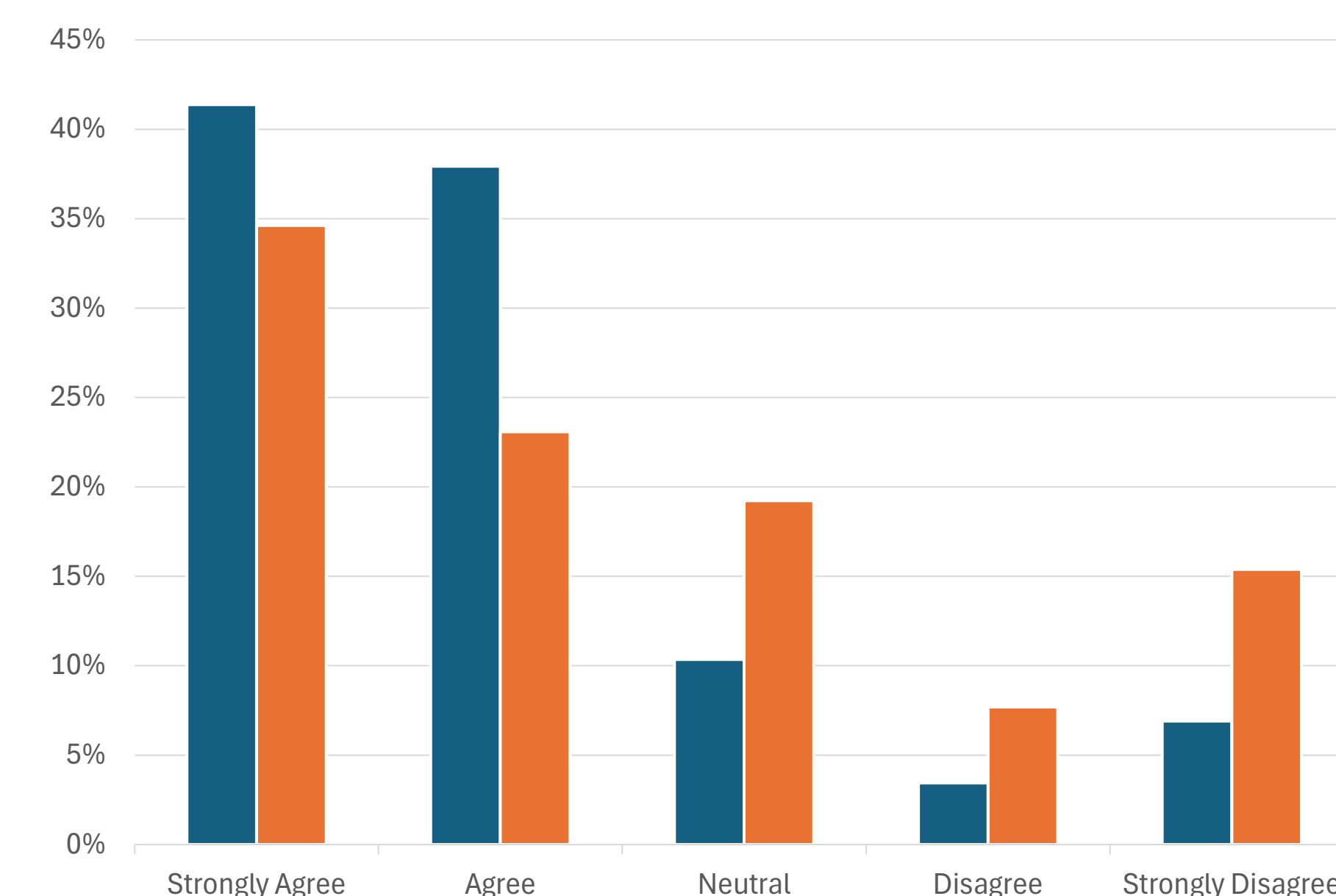
- 13th largest of the 23 institutions within the California State University system
- 14,823 total students fall 2025
- Predominantly undergraduate with masters programs in some areas



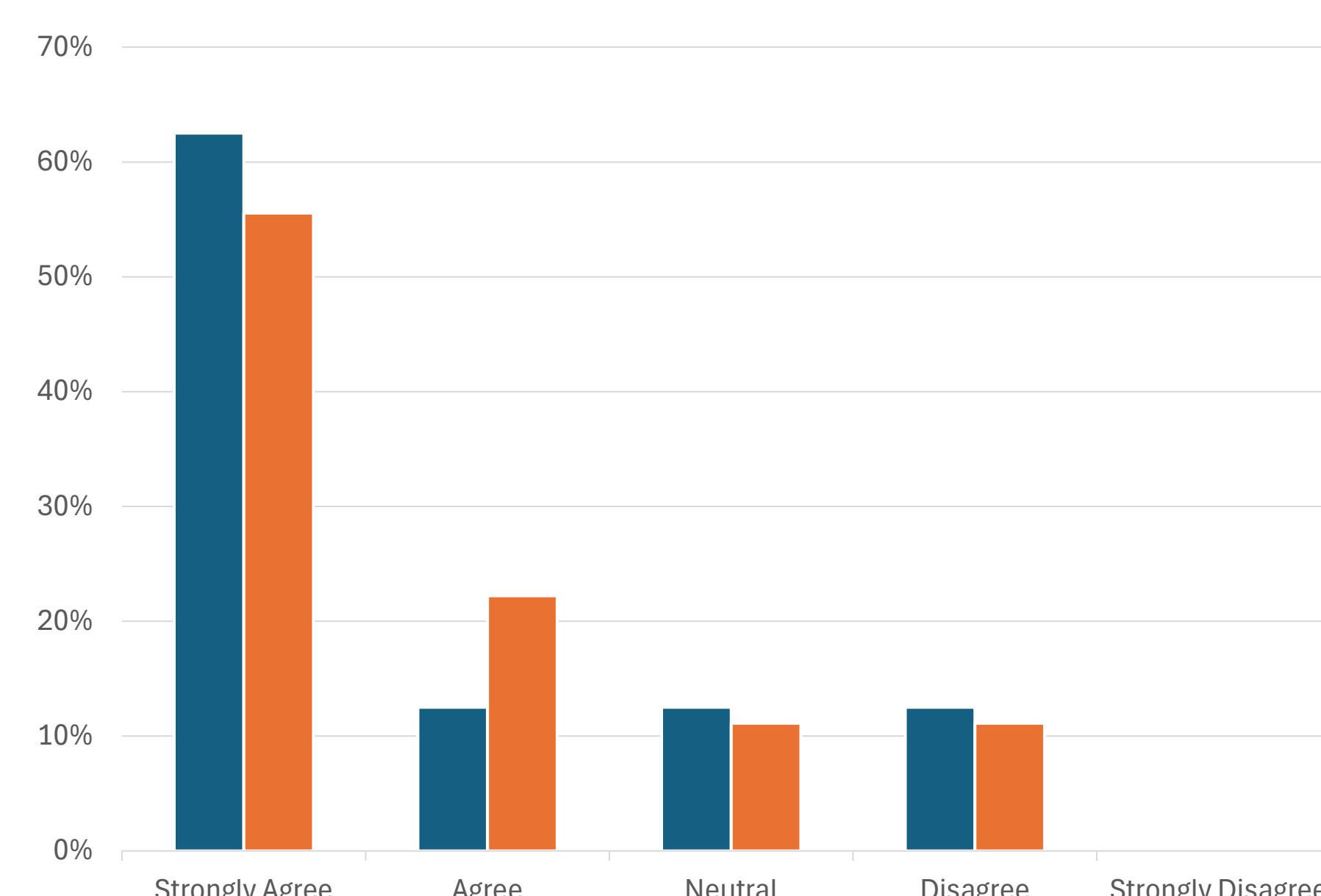
First Look Surveys

- 35 Mechanical Engineering students
- 17 Mechatronic Engineering students
- 8 Advanced Manufacturing students
- 14 Projects
 - 8 Projects with one AMAR student
 - 6 Projects with no AMAR students
 - Project assignments based on manufacturing content of the project

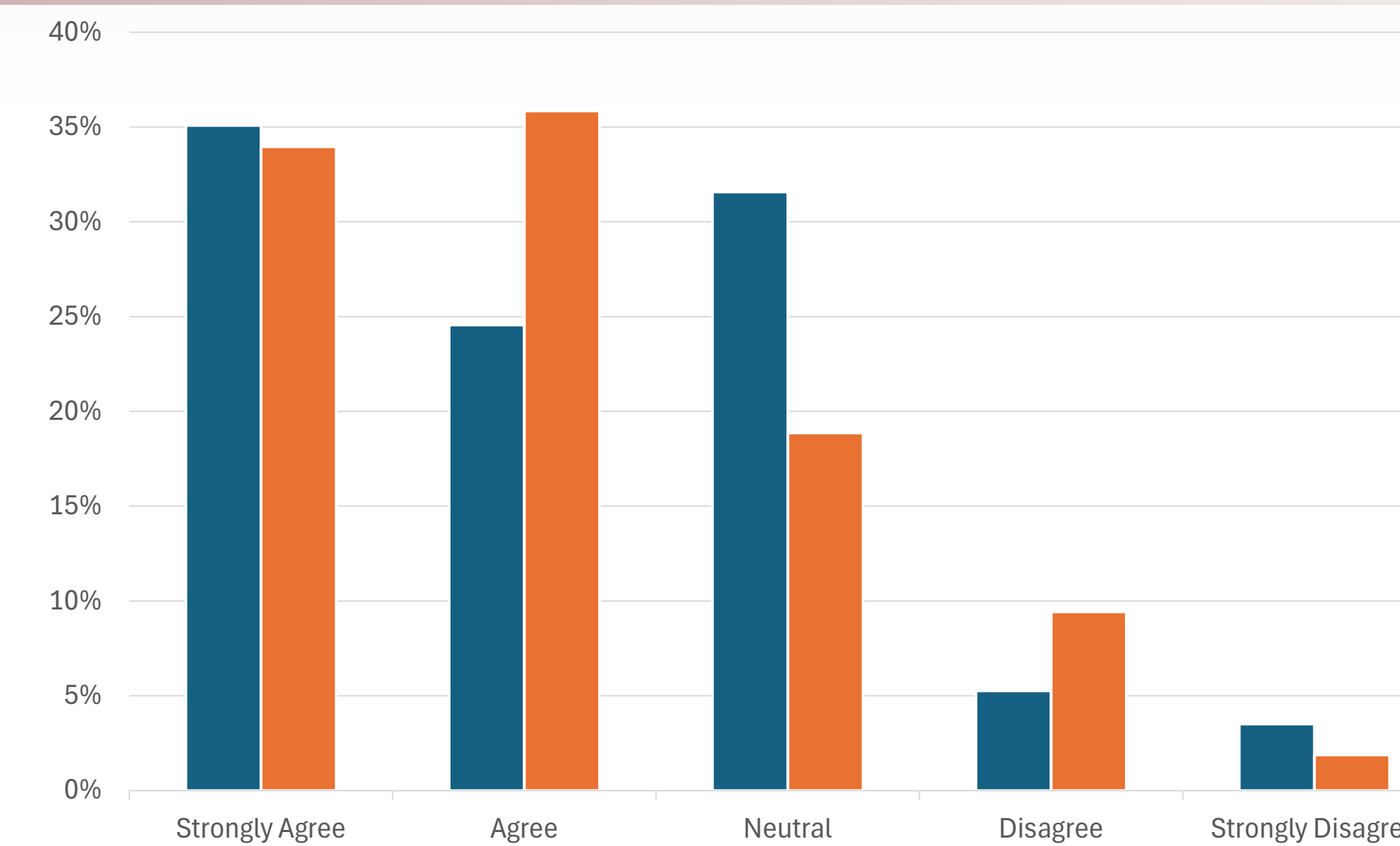
■ End of Design Phase ■ End of Fabrication Phase



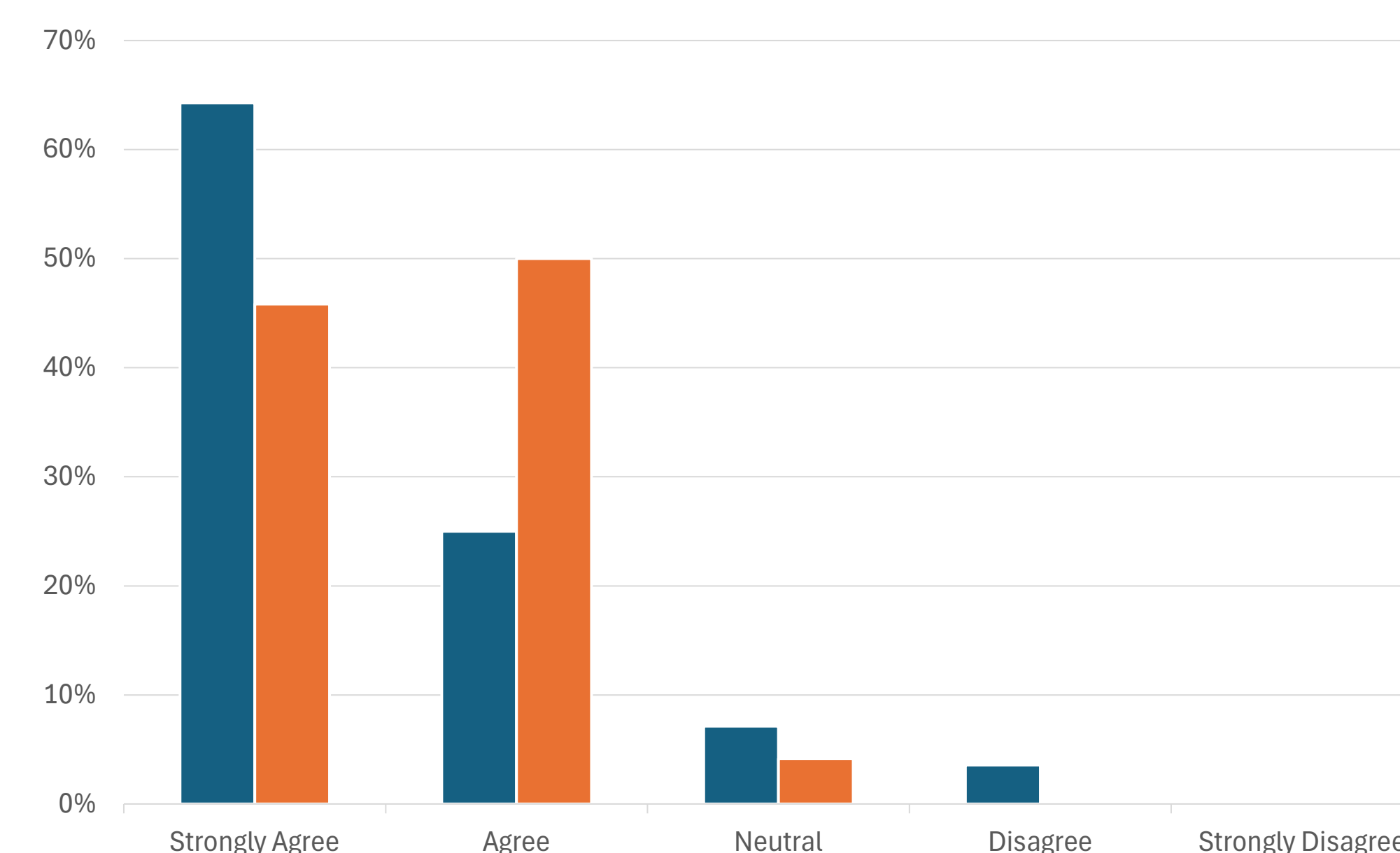
Engineering Students: Manufacturing Students Bring a Different and Valued Perspective



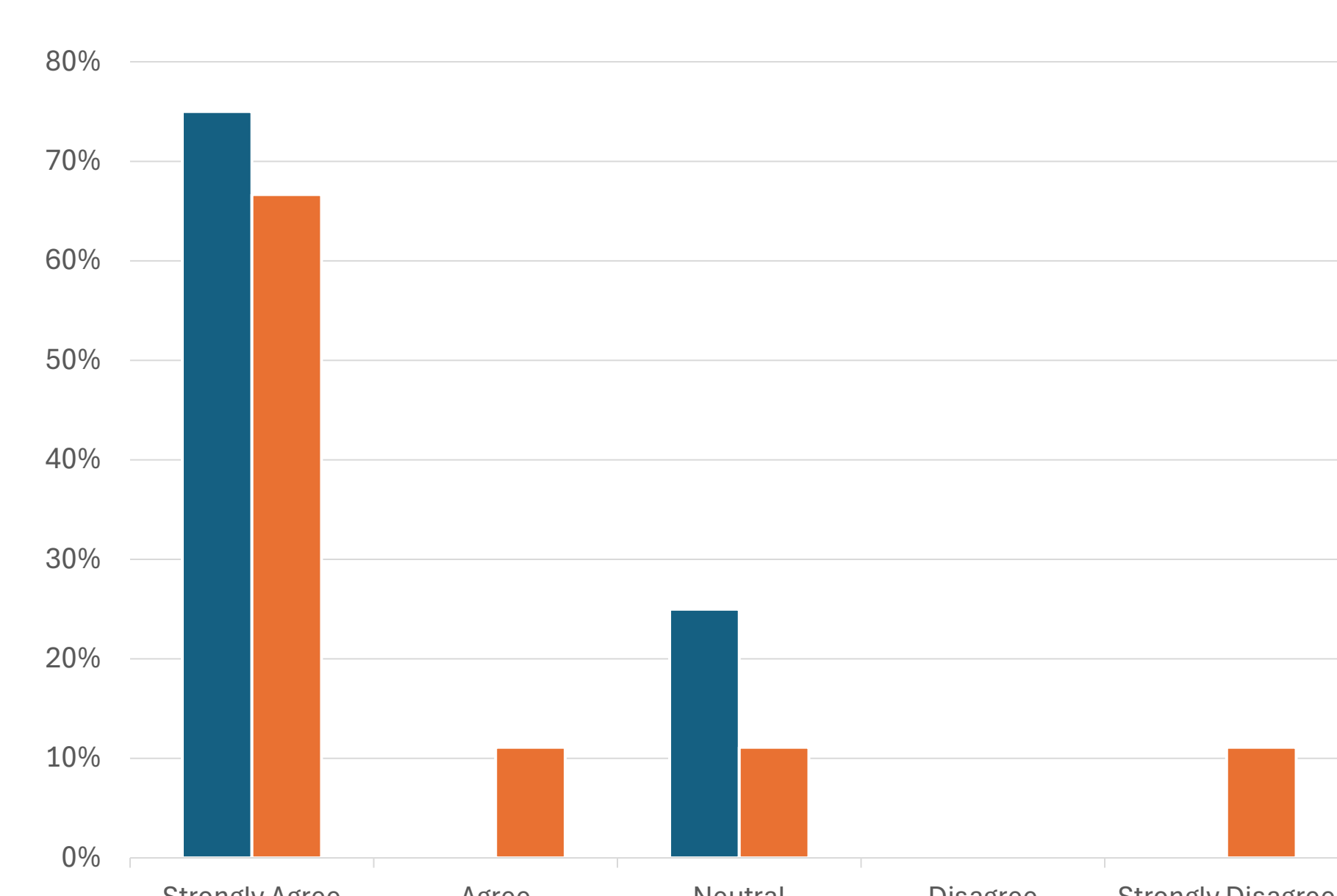
Manufacturing Students: We Feel Valued by Our Engineering Teammates



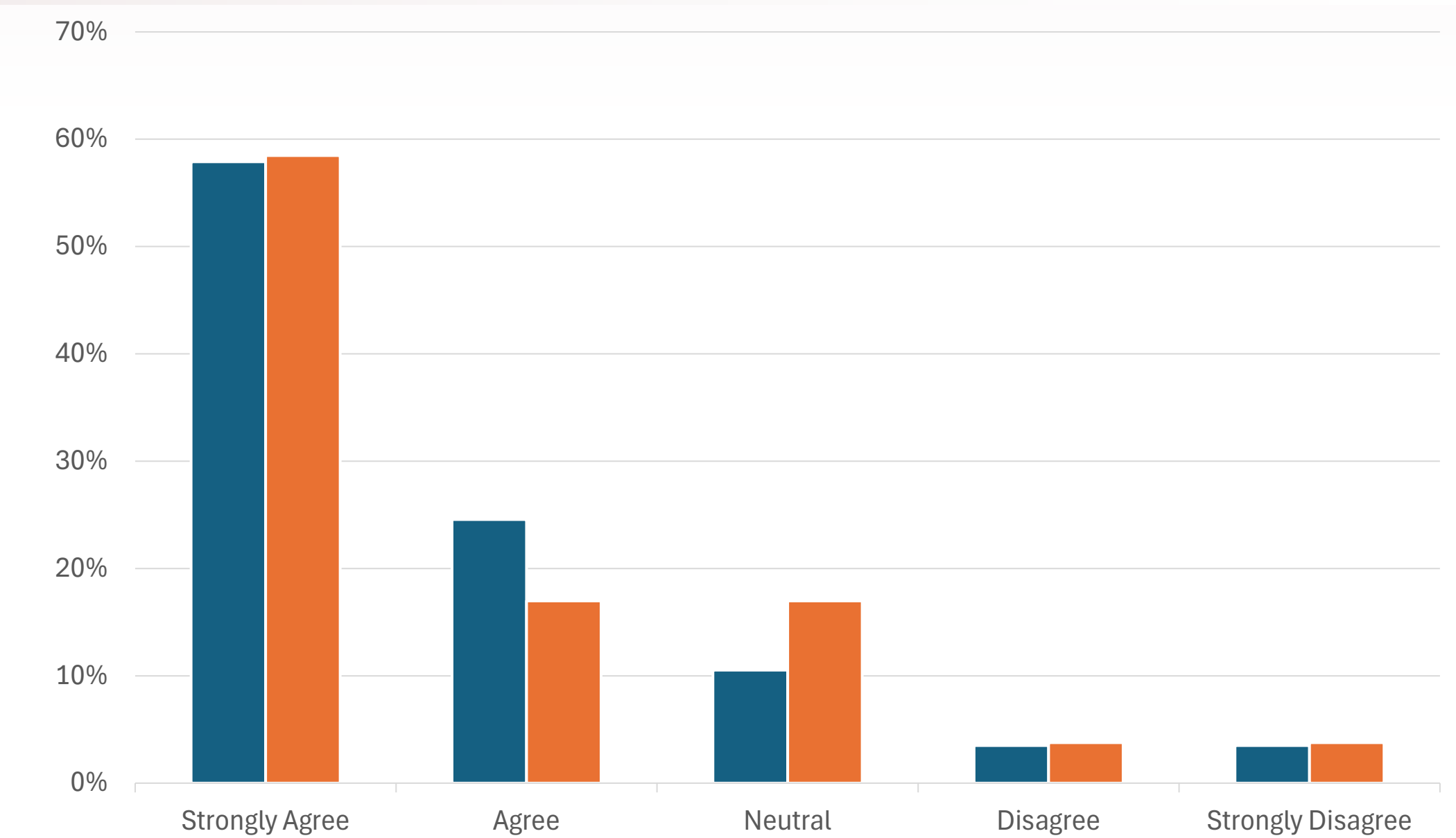
Entire Class: Manufacturing Students are a Great Asset During the Design Phase



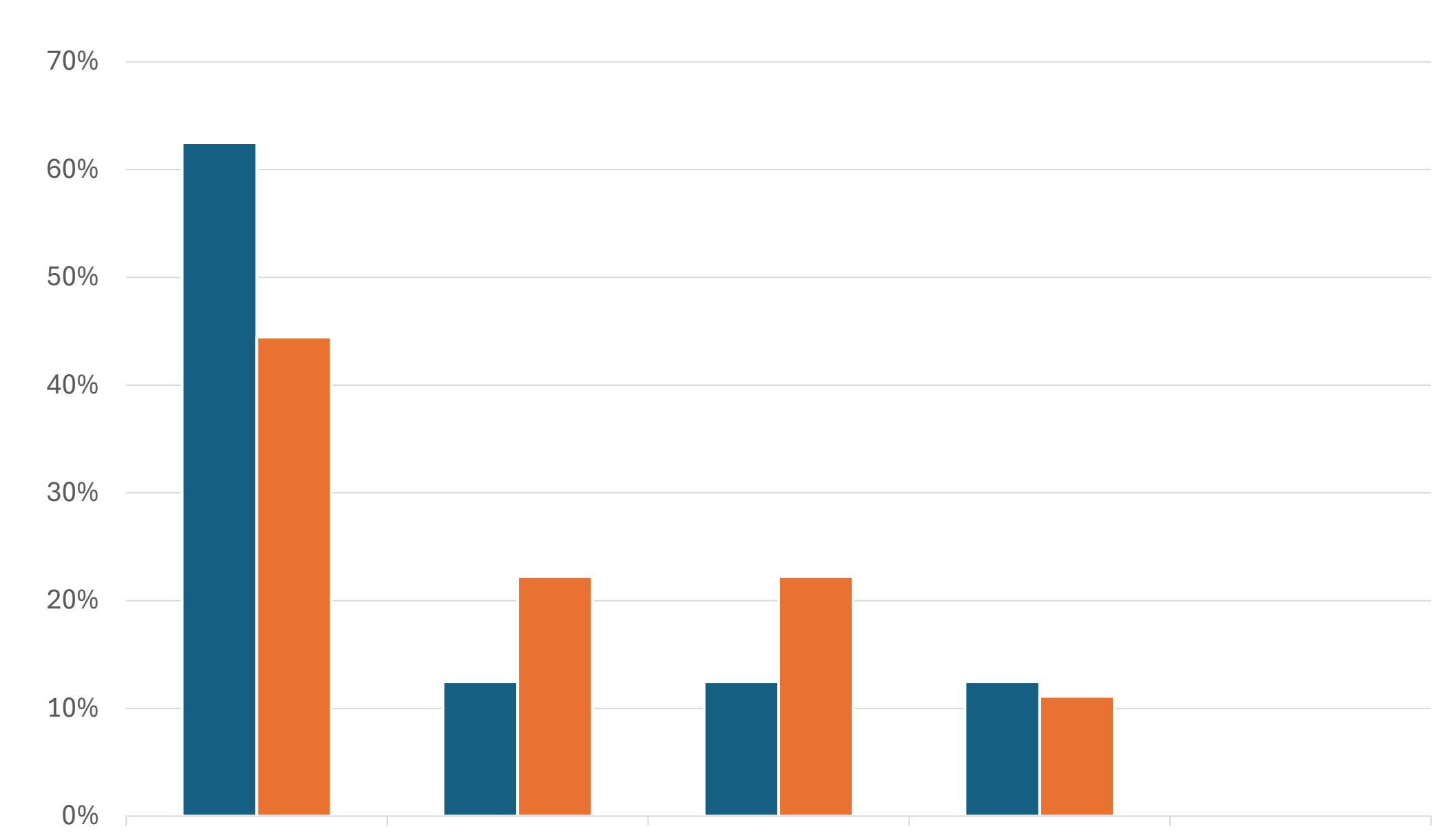
Engineering Students: Manufacturing Students on Capstone Design Teams is a Good Idea



Manufacturing Students: We Prefer Capstone Alongside Engineering Students



Entire Class: Manufacturing Students are a Great Asset During the Fabrication Phase



Manufacturing Students: We Bring a Different and Valued Perspective to Capstone

Summary of Results

- General agreement that manufacturing students are a valuable asset in both design and build phases
- Engineering students showed a noticeable retreat of enthusiasm after the build phase of the project
- Manufacturing students feel valued and strongly prefer this capstone experience