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Integrating Tool Holders for Vertical Lathe

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Integrating Tool Holders for Vertical Lathe

Client: Emerson, Marshalltown, Iowa

Problem Statement

- In order to run Sandvik Coromant Capto C8 tooling the operator must remove the existing stick tool holder from the vertical lathe's ram. This process takes several hours and has the potential to damage the ram.
- Avoid removing the stick tool holder when running C8 and cam lock style tooling

Objectives

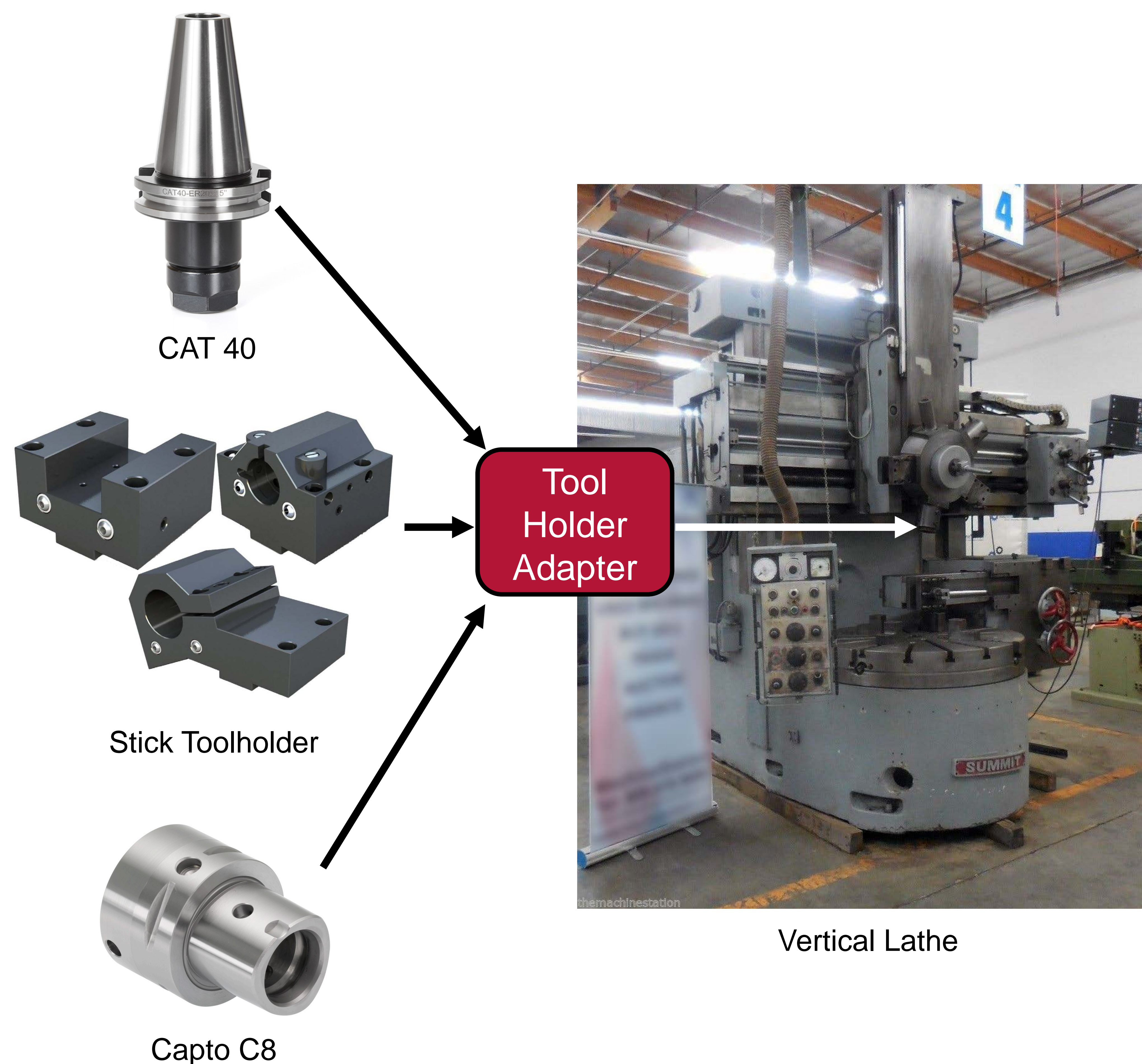
- Reduce risk of damage to machine during tool changes by eliminating component removal
- Reduce steps in tool change process to reduce required time

Constraints

- \$600 Material Budget
- 5 month timeline

Scope

- Visit Emerson for a facility tour and hands on experience with the vertical lathe.
- Visit Emerson to observe a routine tool change on the vertical lathe
- Design CAD designs of possible new tool holders



Methods

- Analyze tool change process step reduction
- Autodesk Inventor used to create CAD models and engineering drawings

Proposed Solutions

- Custom tool holder receiver
- Custom adapter with attached off the shelf tool holders

Major Deliverables

- Concept drawings of at least 2 versions
- Presentation of concepts for approval by Tool Design Department
- Final drawings ready for manufacture
- Work instructions written as Fisher Manufacturing Procedure (FMP)

Benefit to Client

- Reduce risk of machine damage from tool change process
- Reduce tool change time
- Improve utilization of machine