



# Additive Manufacturing of Compliant Mechanisms for Deployable Structures

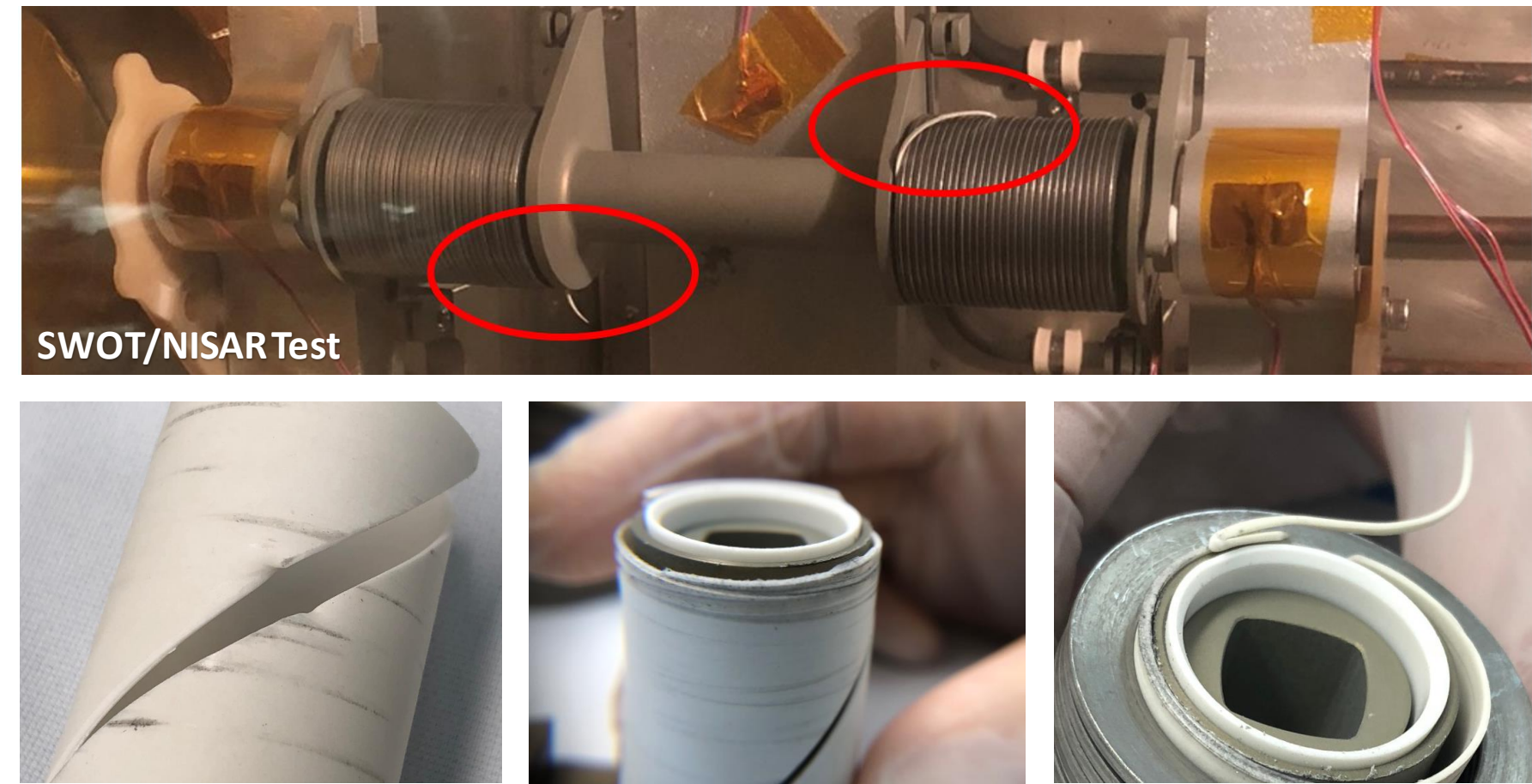
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Program: FY22 R&TD Topics  
Strategic Focus Area: Additive Manufacturing, Multifunctional Systems

## THE PROBLEM.

JPL flight deployable structures need torsion springs that exceed what is currently achievable with traditional manufacturing.

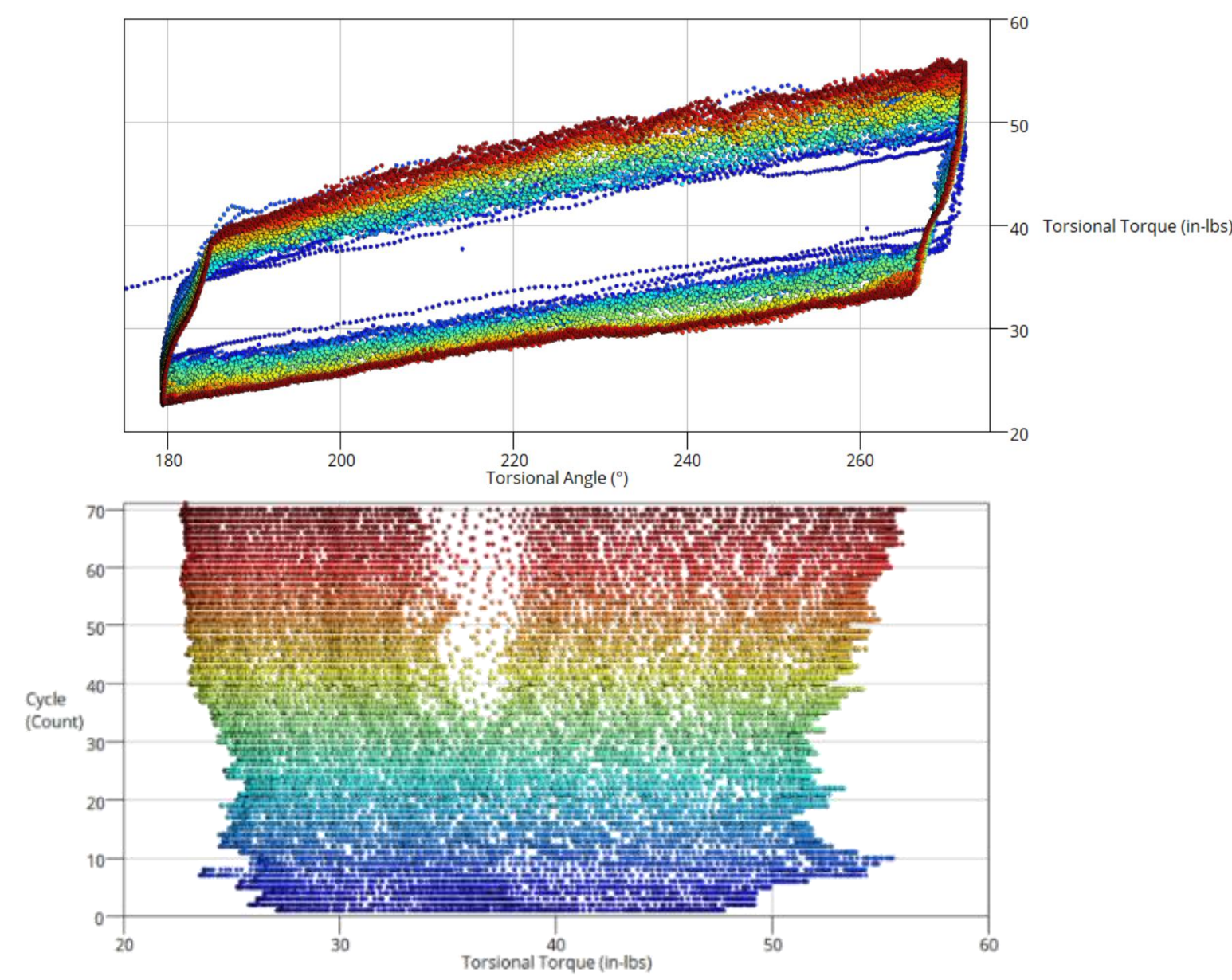
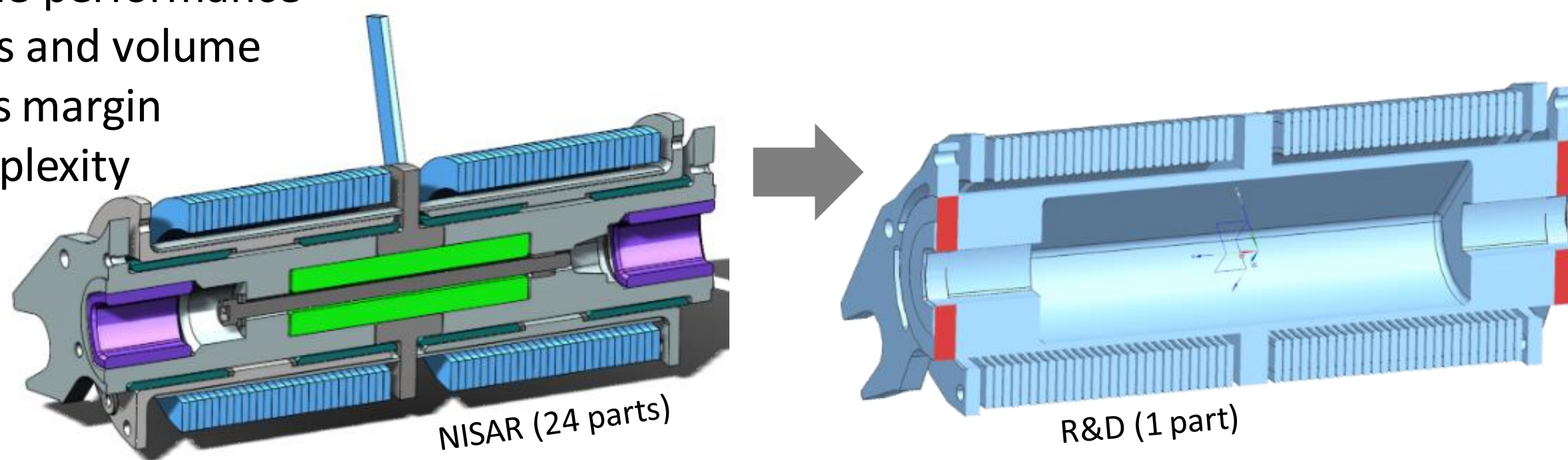
- SWOT, NISAR, and other mission with deployable structures require spring mechanisms with high torque-to-volume ratios.
- Rectangular cross-section springs provide high torque density, but are difficult to traditionally manufacture and interface with.



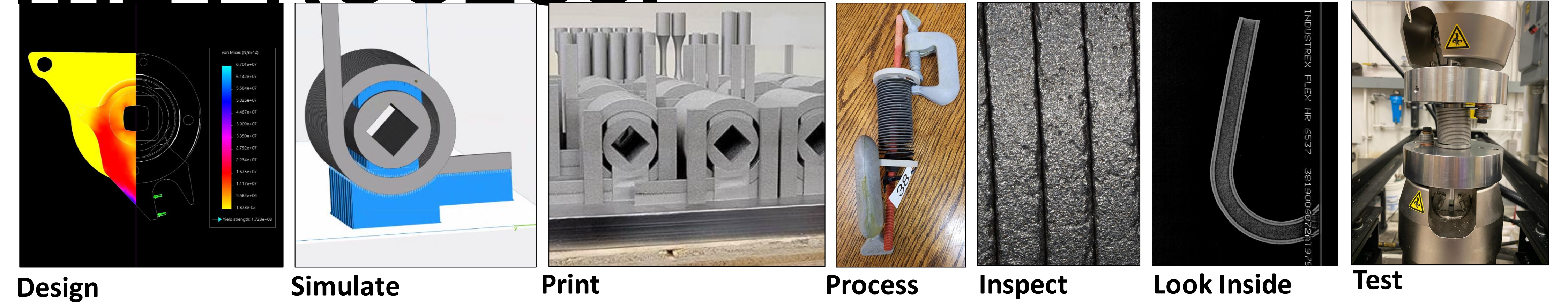
## THE GOAL.

Use advanced manufacturing to increase torque performance for deployable structures.

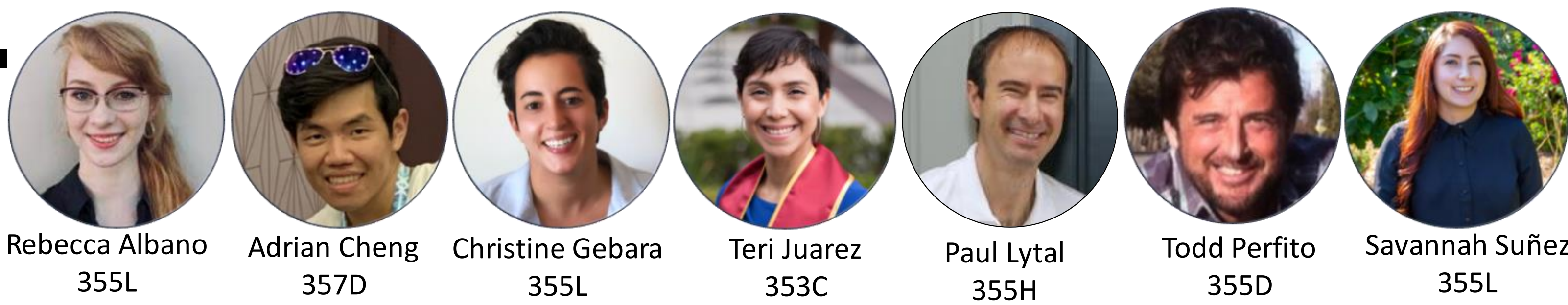
- Increase torque performance
- Decrease mass and volume
- Increase stress margin
- Decrease complexity
- Decrease cost



## THE PROCESS.



## THE TEAM.



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### Publications:

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