



A Career in STEM

OTM Servo Mechanism

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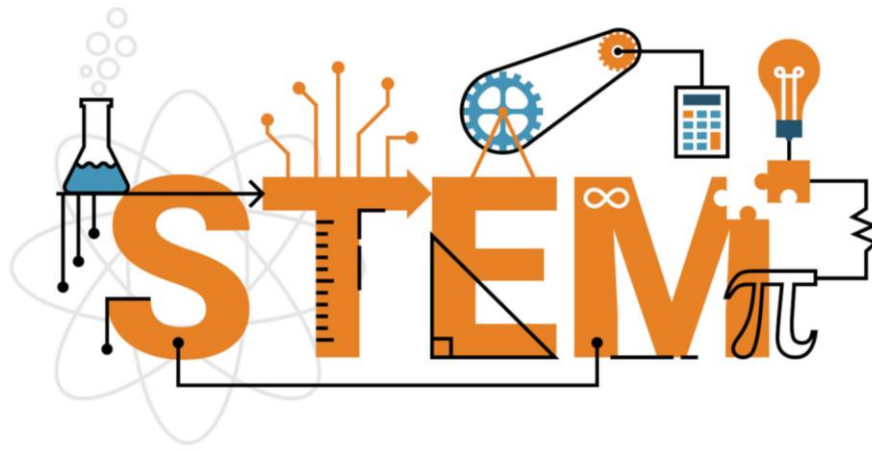
My Background



UNIVERSITY OF
SURREY

- ▶ I used to be student at Maiden Erlegh
- ▶ Mechanical Engineering at University of Surrey
- ▶ Industrial Placement Year at OTM Servo Mechanism





- ▶ What is STEM?
 - ▶ Science Technology Engineering Mathematics
 - ▶ Ambassadors
 - ▶ Insight to a career in a STEM subject

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Different Types of Engineering

- ▶ Engineering is a HUGE industry
 - ▶ Aerospace
 - ▶ **Mechanical**
 - ▶ Medical
 - ▶ Automotive
 - ▶ Civil
 - ▶ Chemical
 - ▶ Electronic
- ▶ All these fields are related!





Servo Mechanism



- ▶ Family owned business
- ▶ Specialises Design & Manufacturing
- ▶ Everything is Done Within the Company
- ▶ Great Reputation
- ▶ High Quality & Custom Made
- ▶ Gearboxes and Actuators



The Product Process

Meeting

Design

Development

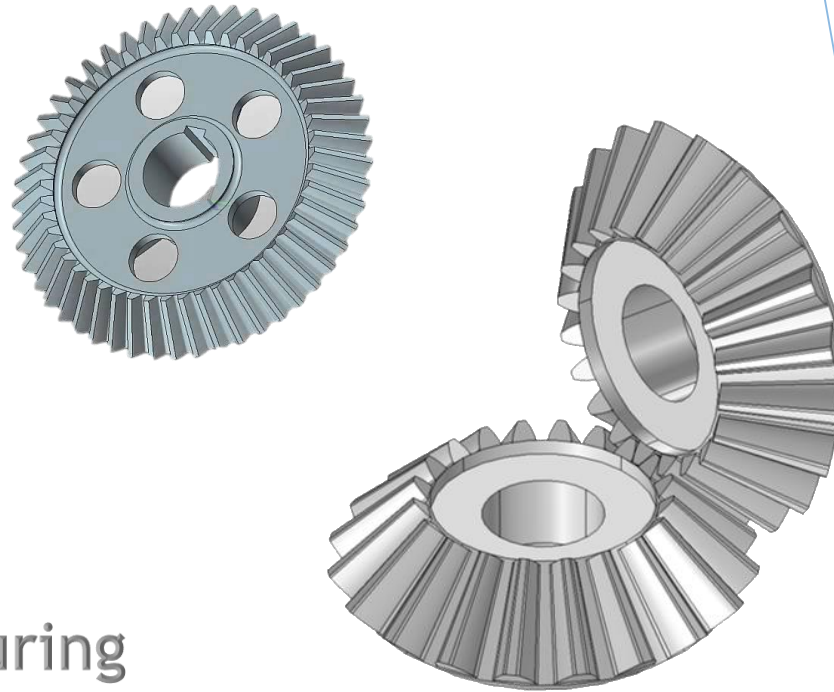
Review Meeting

Manufacturing

Testing

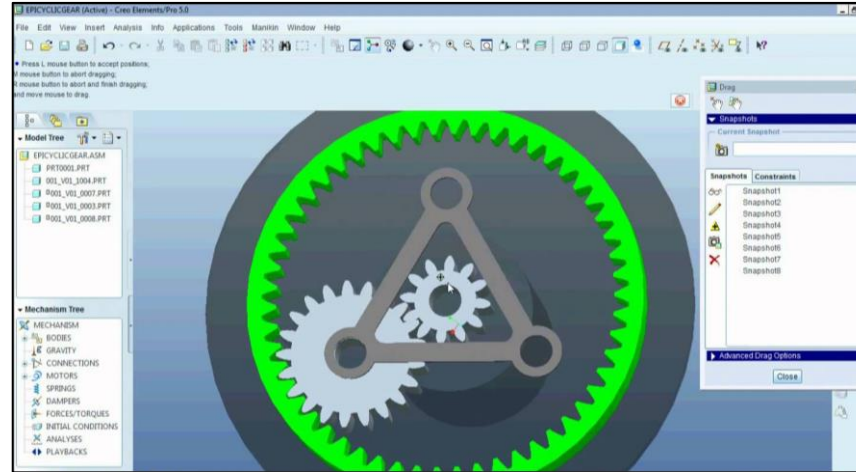
Quality Check

Deliver



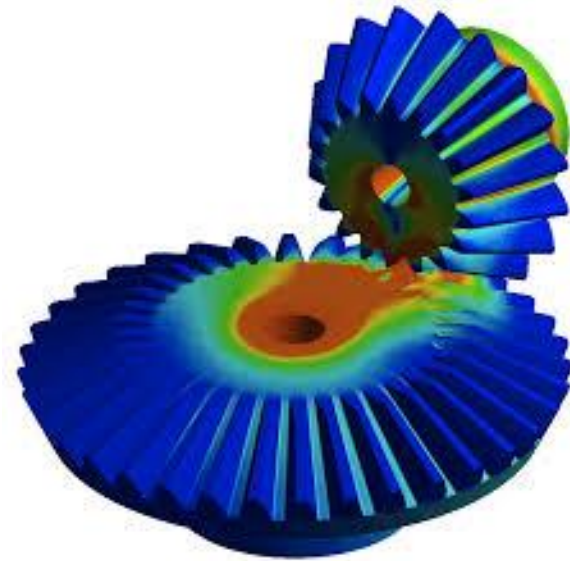
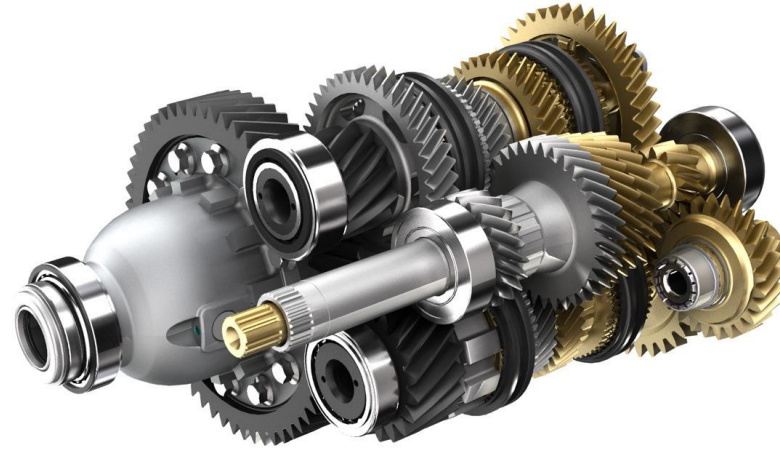
What I do

- ▶ Design Engineering Team
- ▶ CAD Models & Drawings
- ▶ Quality & Testing
- ▶ Customer Contact & Meetings

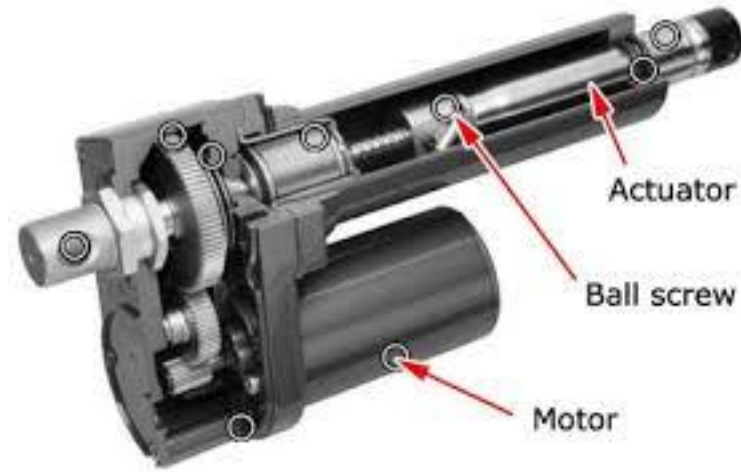


Gearboxes

- ▶ Power Transmission System
- ▶ Provides Speed & Torque
- ▶ Design using CAD (CREO 4.0)
- ▶ Stress Analysis (ANSYS Simulation)
- ▶ Examples
 - ▶ Internal Combustion Engine
 - ▶ Turbines



Actuator



- ▶ Movement & Control
- ▶ Specialise in Mechanical & Electronic
- ▶ Everyday Examples:
 - ▶ Automatic Doors
 - ▶ Windscreen wiper on Cars
- ▶ Industrial Examples:
 - ▶ Fighter Jet Sets
 - ▶ Wing Control



Examples of Our Actuators

- ▶ Used on a UAV
- ▶ Steering Control Functions
- ▶ Mid- Air Braking Control



- ▶ Used in Single-seat Aircraft
- ▶ Adjust Seat Position in 2 Dimensions
- ▶ Main part of Ejection System

Examples of Our Actuators

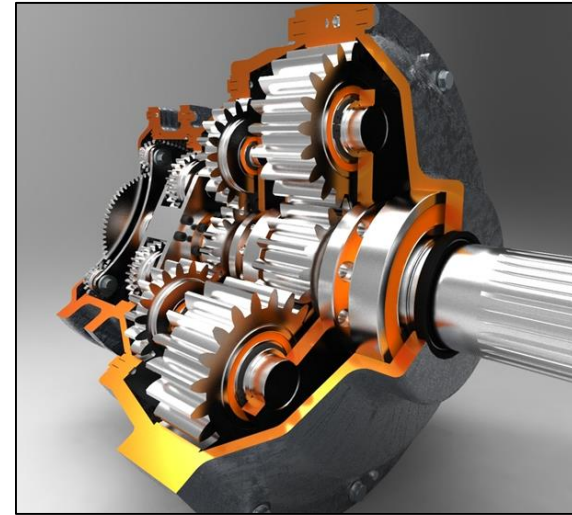
- ▶ Fin Control (Tail Fin)
- ▶ Linked to Guidance System
- ▶ Automatic Feedback to User



- ▶ Control of Throttle (Fuel Control)
- ▶ Duplex Design (Second channel)
- ▶ Can Operate in High Temperatures

My Placement Year

- ▶ Only at the Company for 1 Year
- ▶ Gain Experience in the Engineering Industry
- ▶ Help Me to Shape My Career
- ▶ Ideas for Final Project



Opportunities at OTM

- ▶ Apprenticeships for Post A-Level Students
- ▶ Industrial Placement Year
- ▶ Company is Expanding
 - ▶ More Work
 - ▶ More Job Opportunities!



