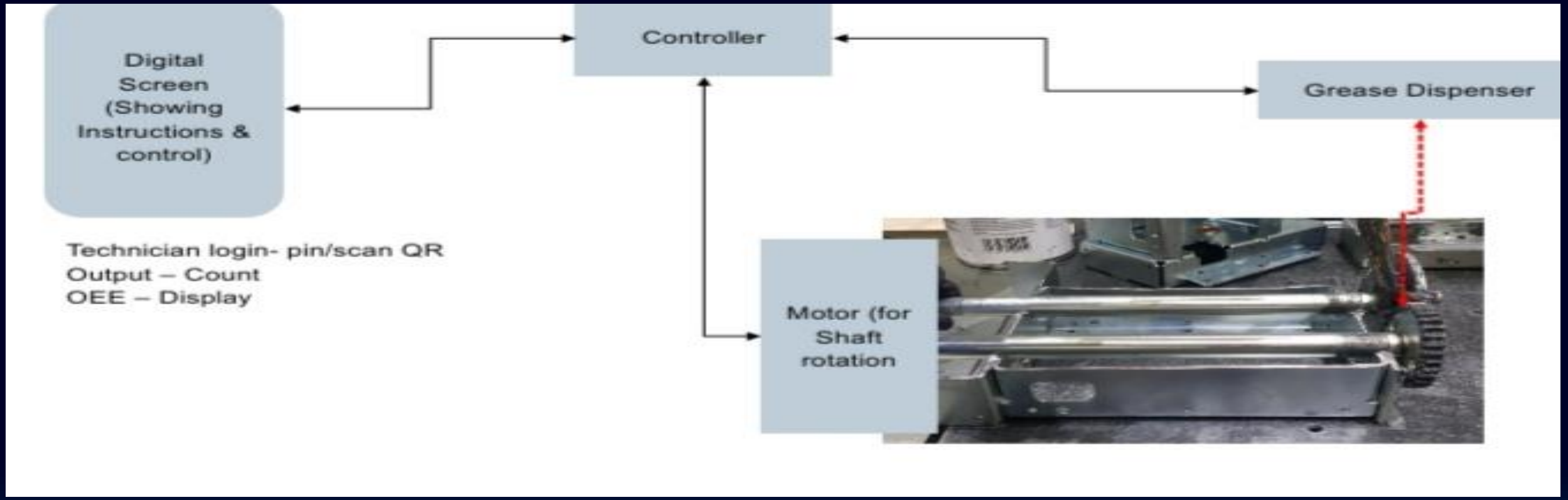

Linear Drive Greasing Automation

Automation model of Greasing of Gear & Shaft

SIEMENS

Linear Drive Greasing Automation

The goal is to build an Automatic Grease Dispenser that is responsive, stable and controllable to reduce greasing time & human effort.

Why there is need of the automated model of Greasing?

Manual Greasing :-

- takes more time.
- takes more human effort
- increases the use of lubricant
- leads to uneven grease on machines
- reduces machine life

What is our Solution?

Linear Drive Greasing Automation model provide continuous flow of grease for calculated time on the projected machine which can automate the greasing in industries. Building a grease dispenser on top of it and used limit switch to start and stop the flow of grease controlled by PLC.

Impact of Automated model

An automated lubrication system can apply a smaller amount of lubricant on a more frequent basis, keeping lubricant fresh and effective.It also reduces waste of lubricant and leads to more consistent lubricant flow throughout the part.

SIEMENS

Workflow of Automated Greasing Model

1.Start

2.Check whether grease is present in container or not

If Yes

If No

3 Check shaft/gear is present or not

4 Show alert to fill grease in container

If Yes 5

If No 6

Greasing will done for 5 sec

Conveyor move and bring shaft/gear under grease dispenser

Conveyor moves and grease other gear/shaft

Hardware Used

1.PLC (as a Controller)
2.Ultrasonic Sensor
3.Limit Switch
4.Digital Display
5.Grease Dispenser
6.Conveyor Belt & Servo Motor
Arduino (for testing)

FIG 4. Grease dispenser:
Raziol : Lube 502
Art. -Nr. 1077000502.

FIG 5.Aurdino HC-SR04 Ultrasonic Sensor
Range 2cm to 5m

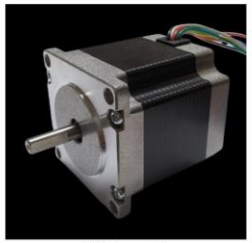

FIG 6. Servo Motor
Model : PSM57HS2A54-2P

FIG 7. OMRON 3D Printer Limit Switch ENDSTOP SS-5GL

SIEMENS

Contact

Informations

Name	Email	Contact number
Deepak kumar khatri	deepakkumar.khatri@siemens.com	9890426820
Priyanka Soni	priyankasoni01999@gmail.com	7320972030
Preeti Yadav	preetiyadav4644@gmail.com	7497830343
Chingkhomba Arambam	chingkhombaa@gmail.com	8787553506
Yogesh Gangasagare	gangasagareyogesh@gmail.com	7558722709