



Escuela Técnica Superior de Ingeniería del Diseño



UNIVERSITAT
POLITÈCNICA
DE VALÈNCIA

DESARROLLO DE LA AUTOMATIZACION DE UNA LINEA DE COSTEROS

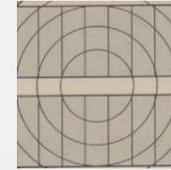
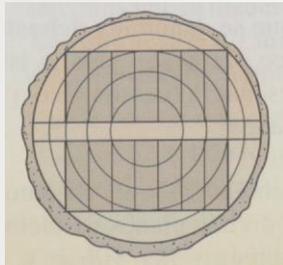
AUTOR: José Peiró Alcázar
TUTORA: Marina Vallés Miquel
Septiembre 2018

2

Contenido

- Proceso
- Vista general de la línea
- Entrada
- Maquina B27
- Detalle servo sierra
- Salida B27
- Cadenas de Selección
- Pantalla HMI
- Buses de comunicación
- Armario Principal
- Seguridades
- Graficet
- Software
- Presupuesto
- Conclusiones
- Video Demostrativo

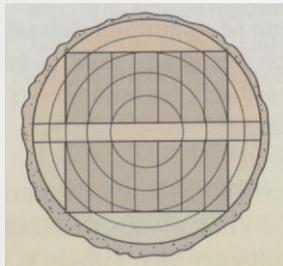
3 | Proceso



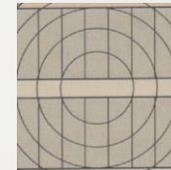
Producto final



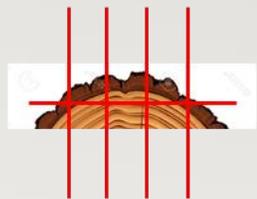
4 | Proceso



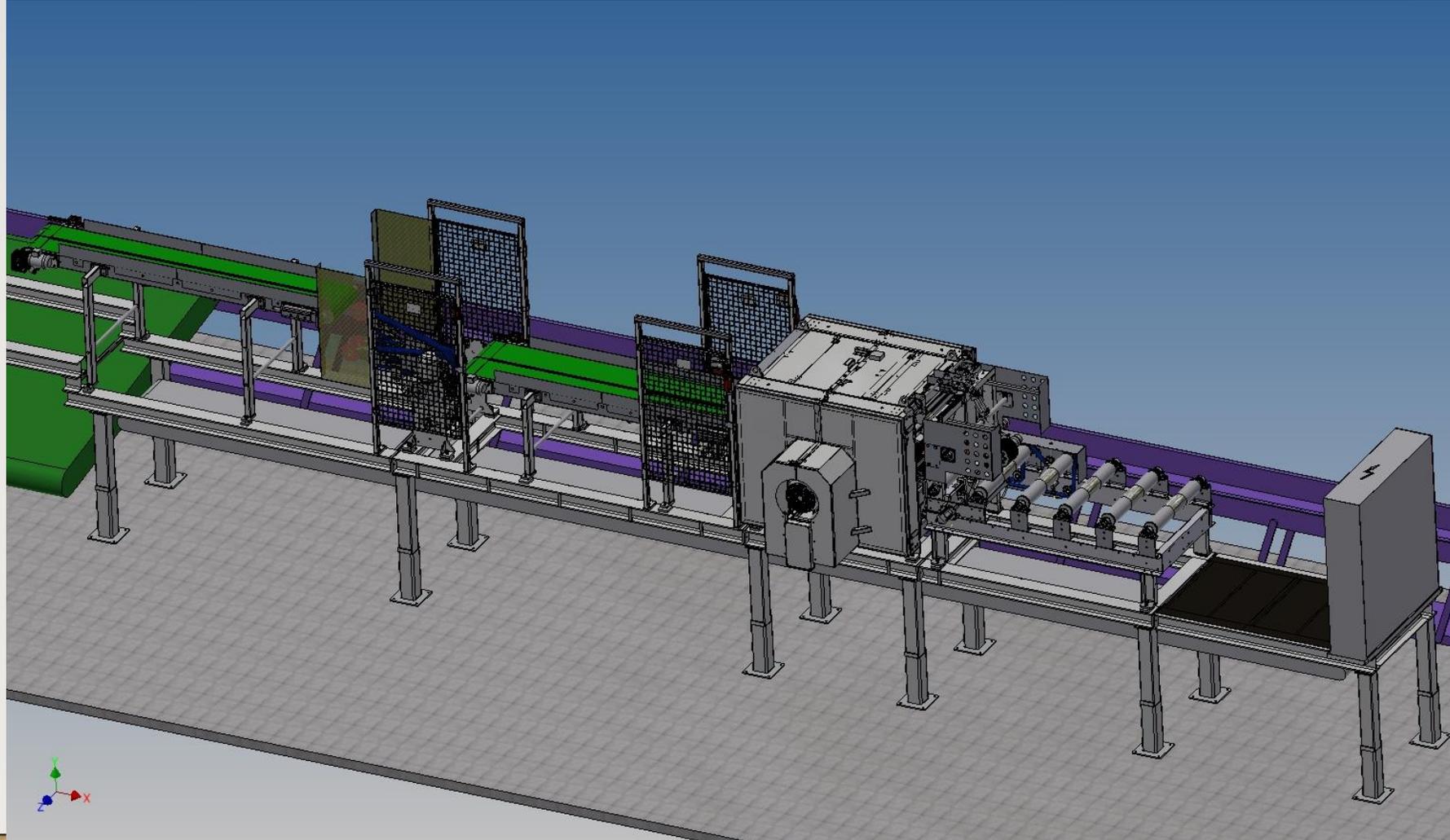
Línea Principal



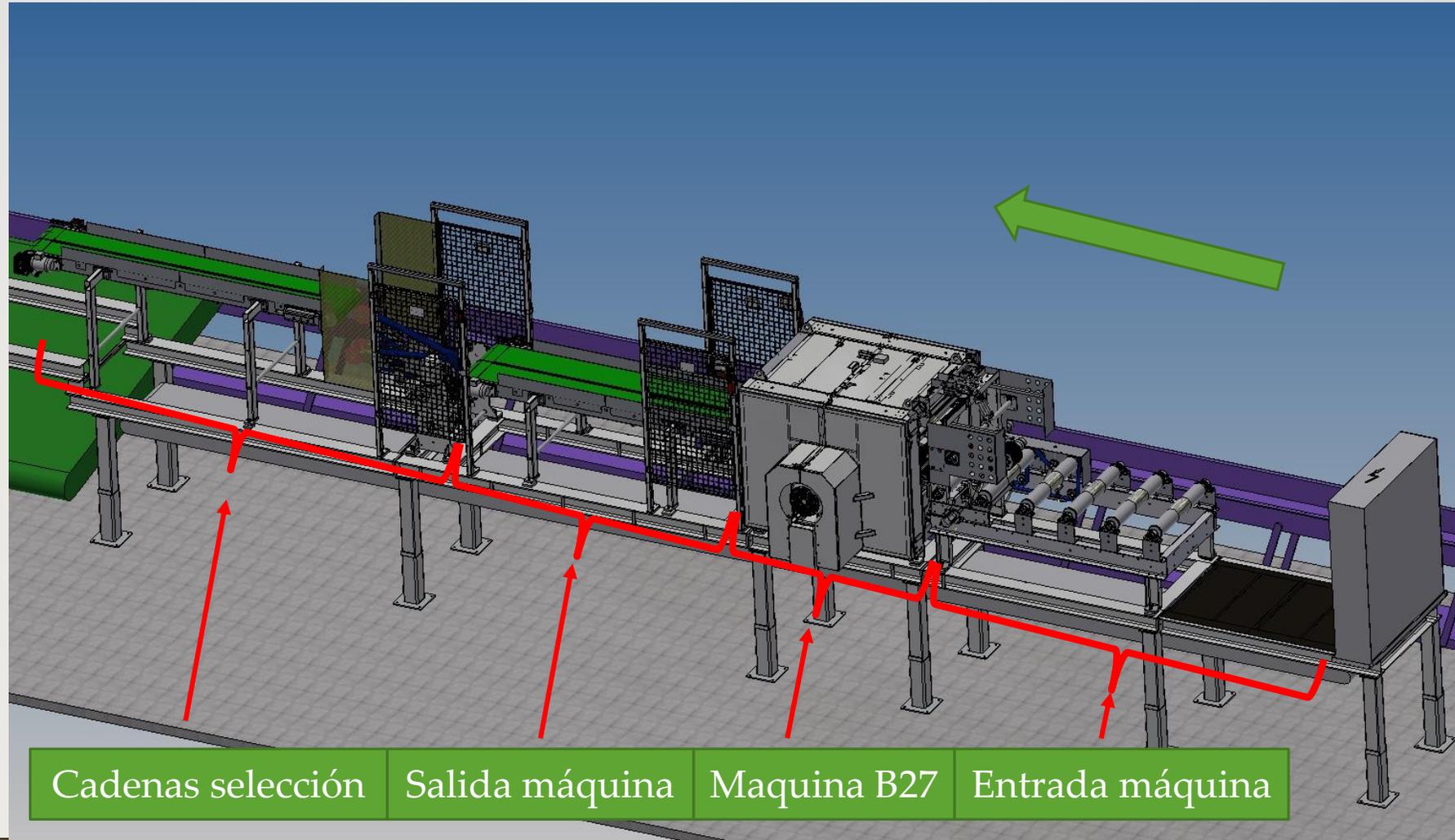
Línea Costeros



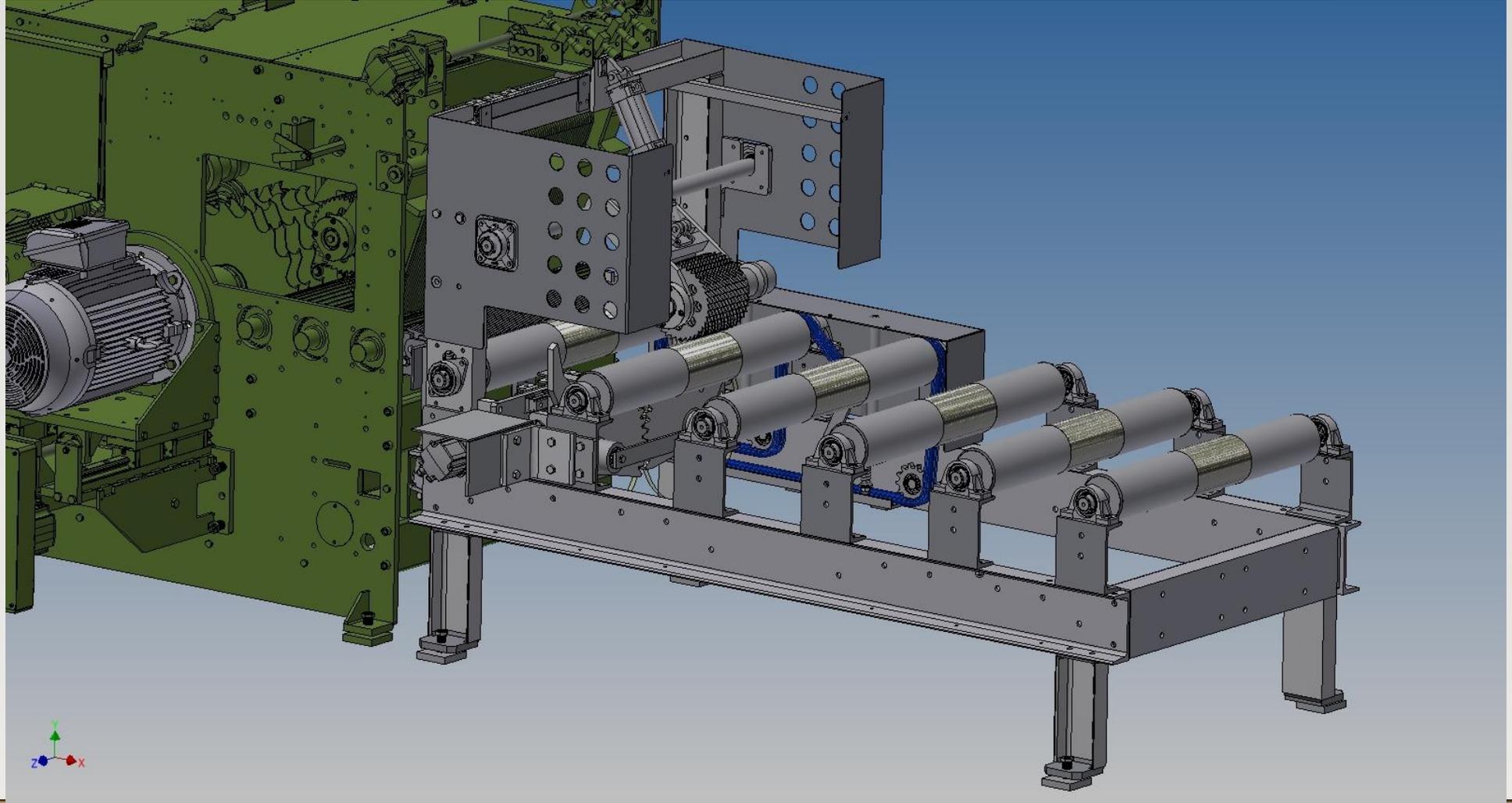
5 | Vista general de la línea



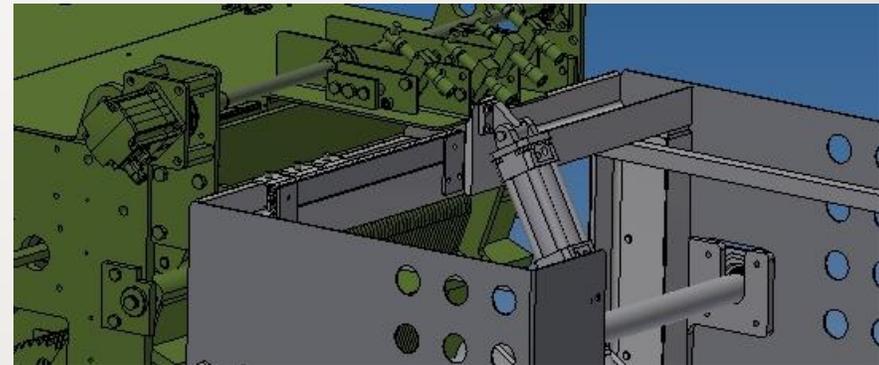
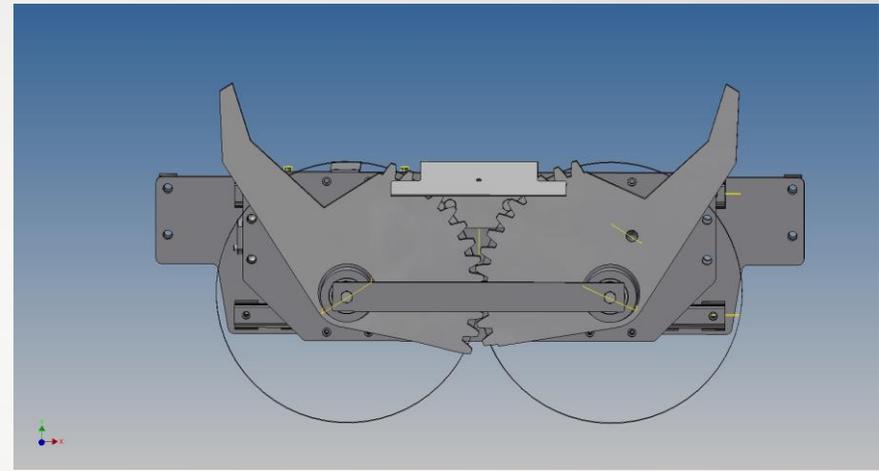
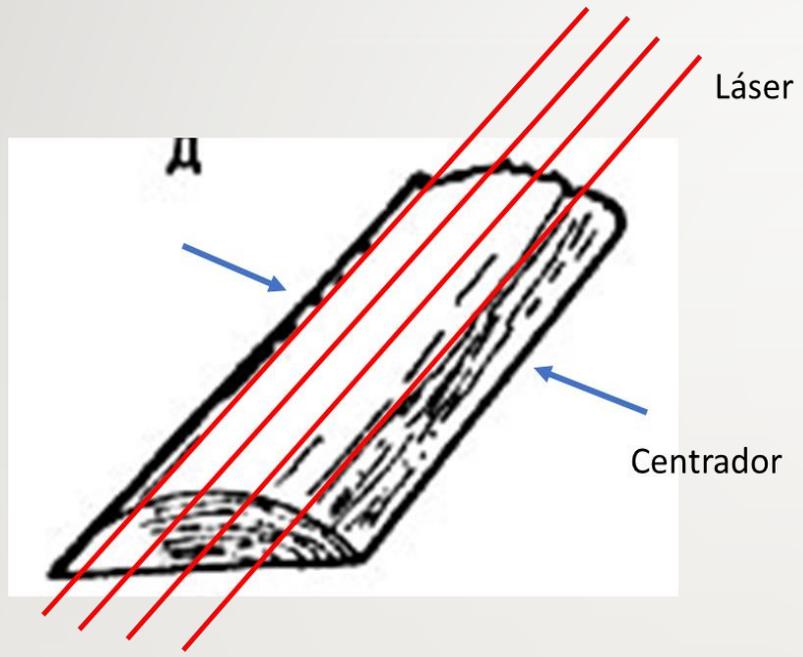
6 Vista general de la línea



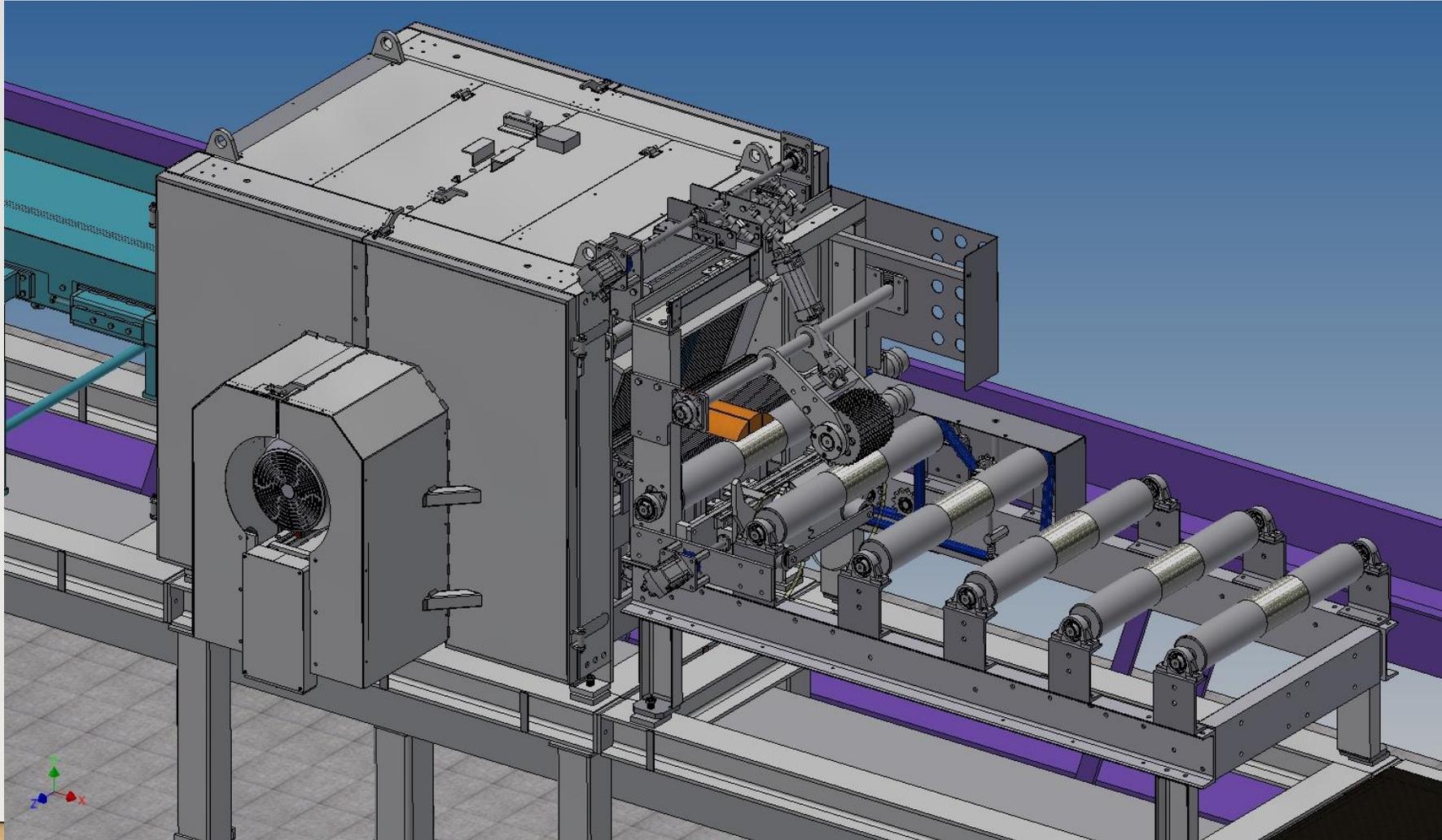
7 | Entrada



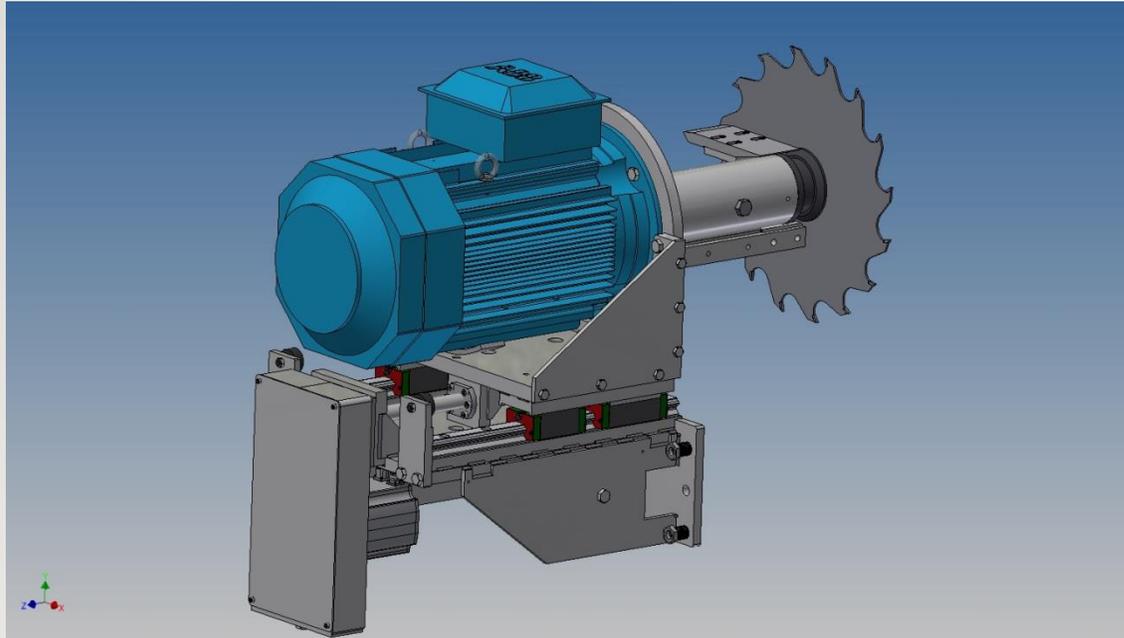
8 | Entrada



9 | Maquina B27

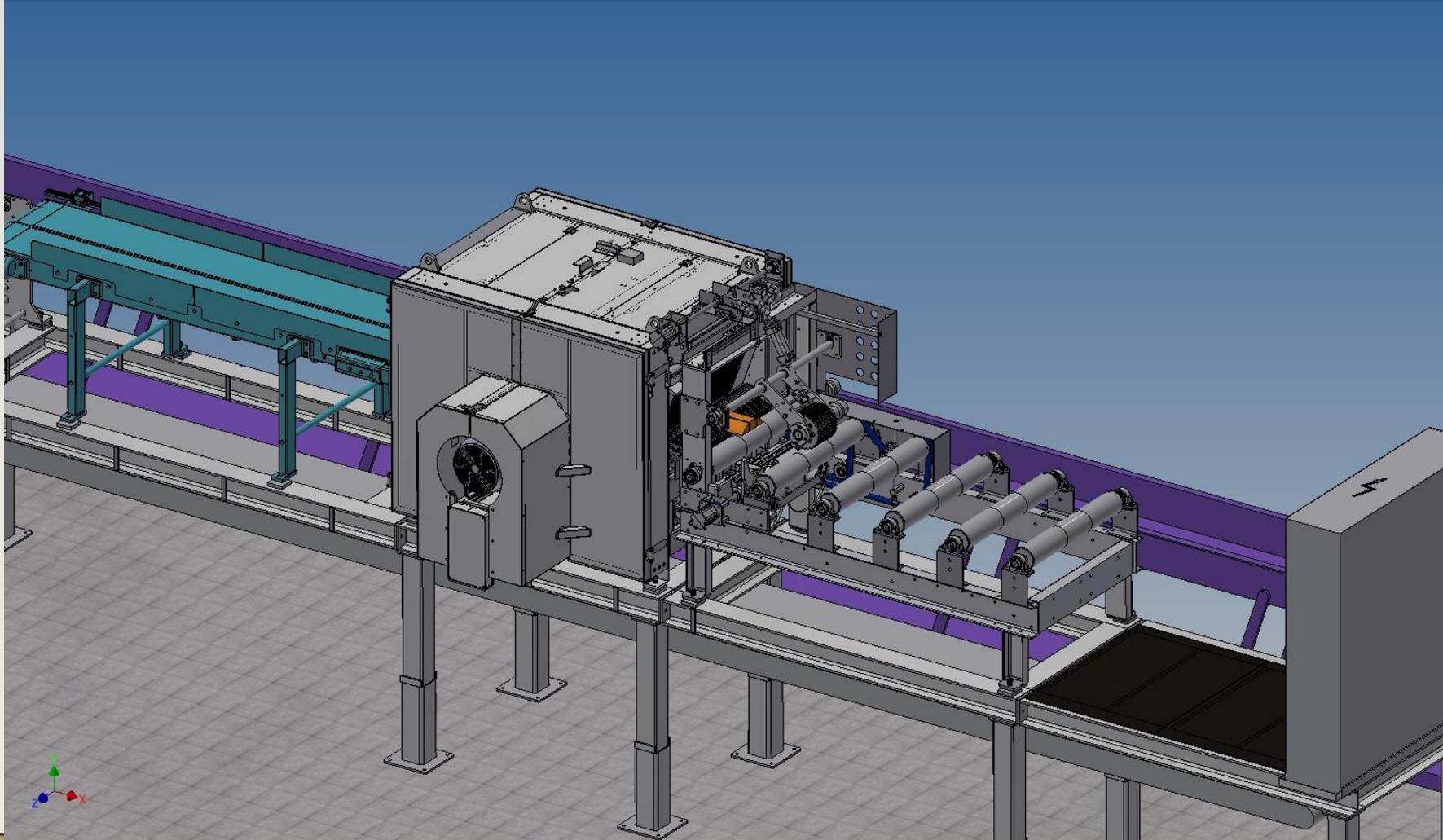


10 | Detalle servo sierra

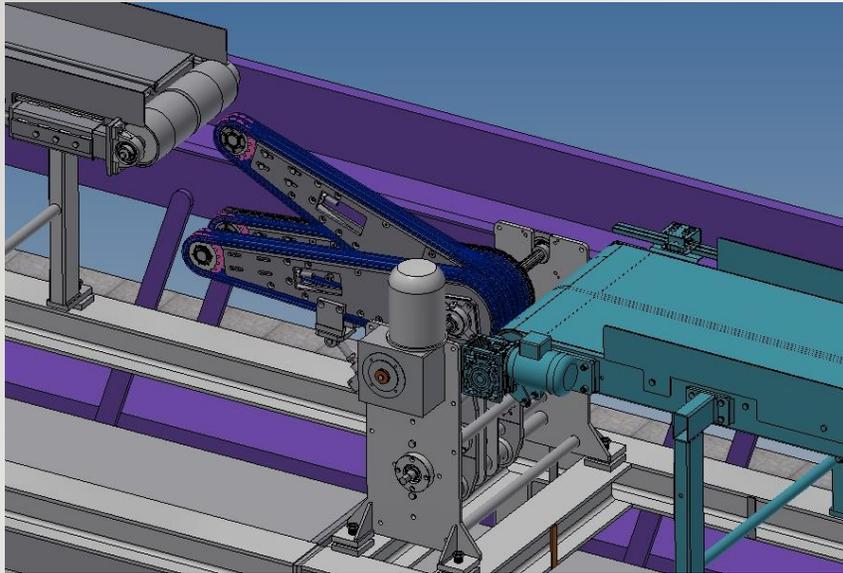


11

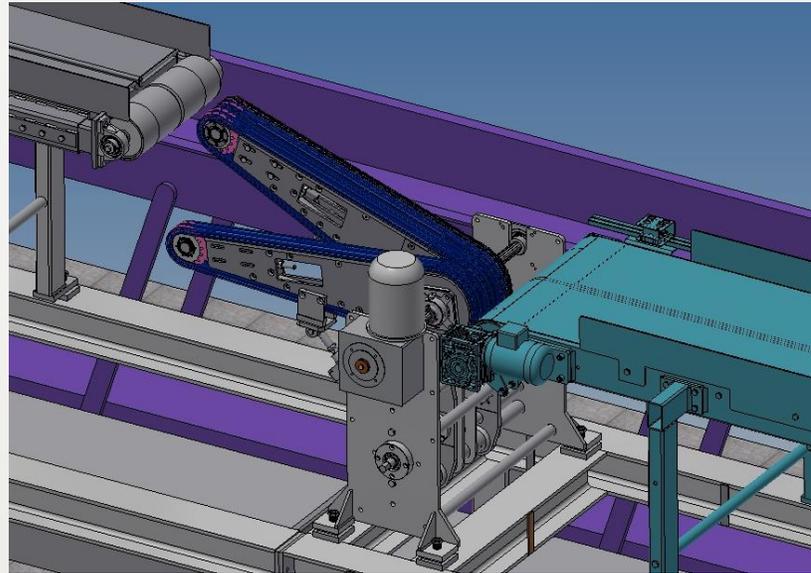
Salida B27



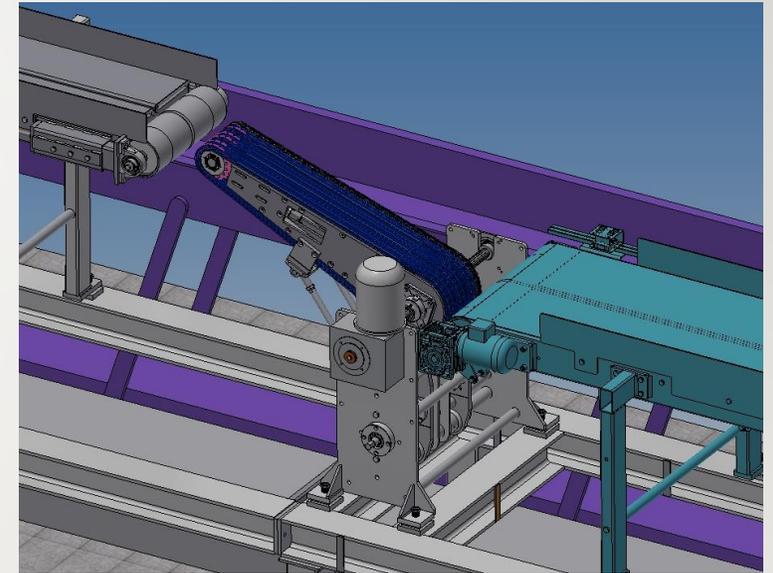
12 | Cadenas selección



Simple



Doble



Triple

13

Pantalla HMI

VELOCIDADES

20 m/min	40 m/min
25 m/min	45 m/min
30 m/min	50 m/min
35 m/min.	55 m/min

VELOCIDAD ACTUAL 0 m/min

RESET VARIADORES

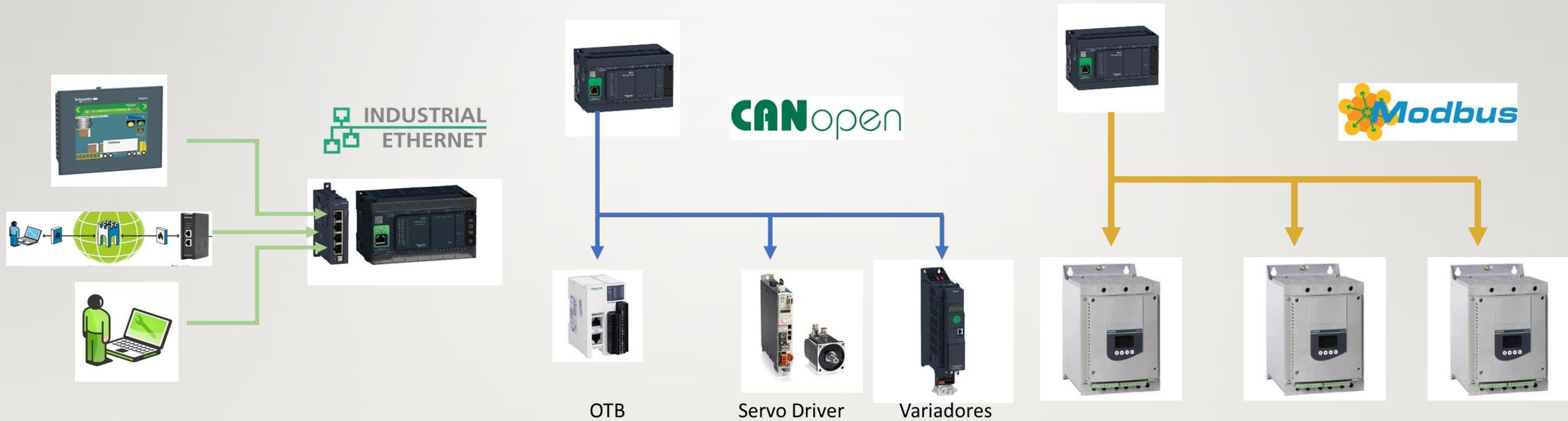
TENSION PROPORCIONAL 0 mV

PRODUCCION

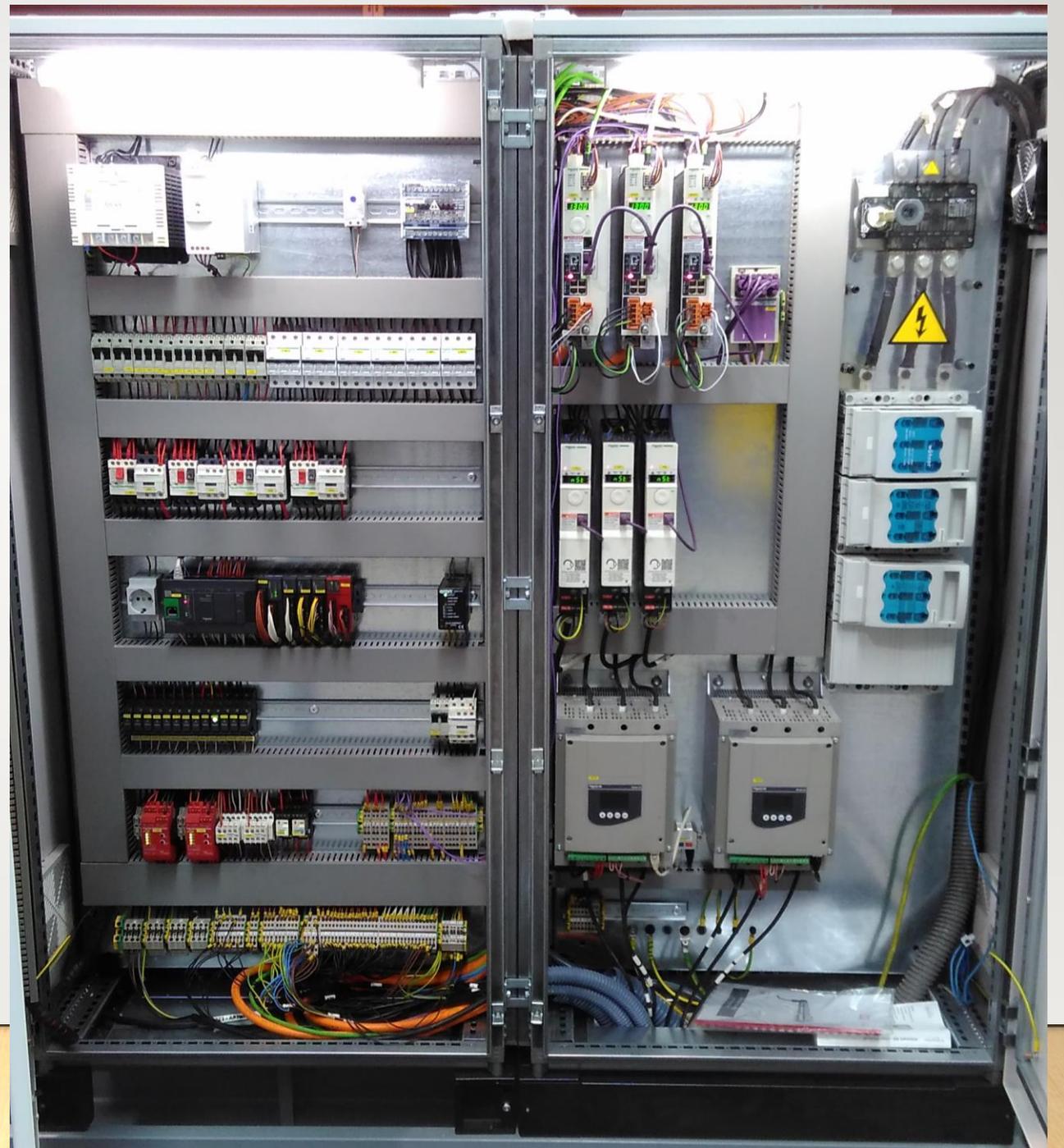
PALOS SIMPLE	0
PALOS DOBLES	0
PALOS TRIPLES	0
TOTAL	0
TOTAL PIEZAS	0

RESET

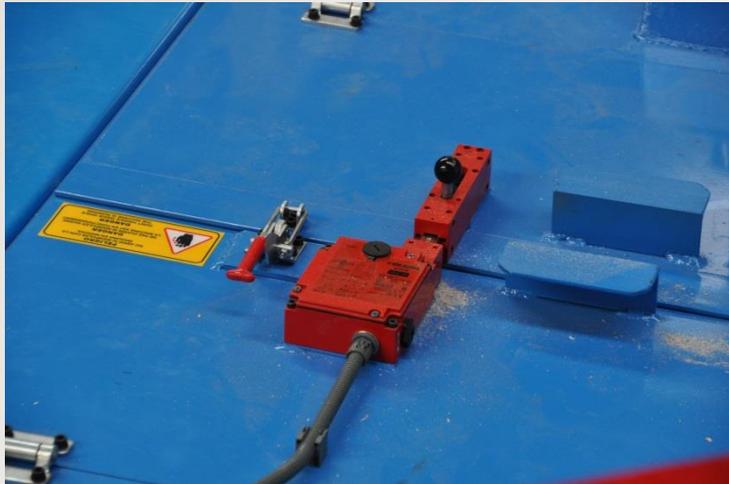
Buses Comunicación



15 | Armario Principal



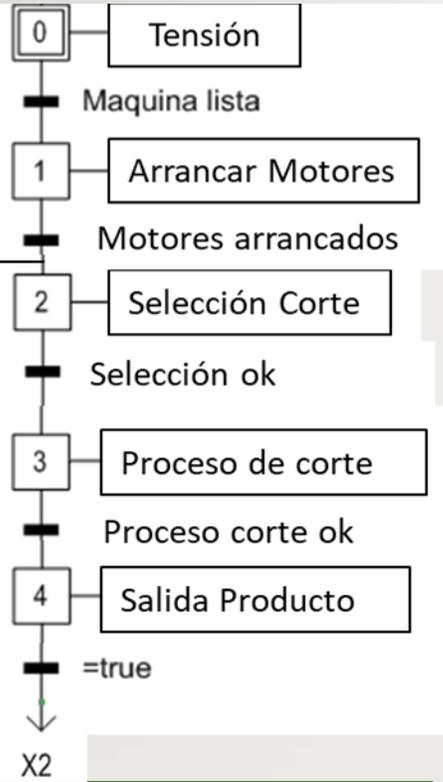
16 | Seguridades



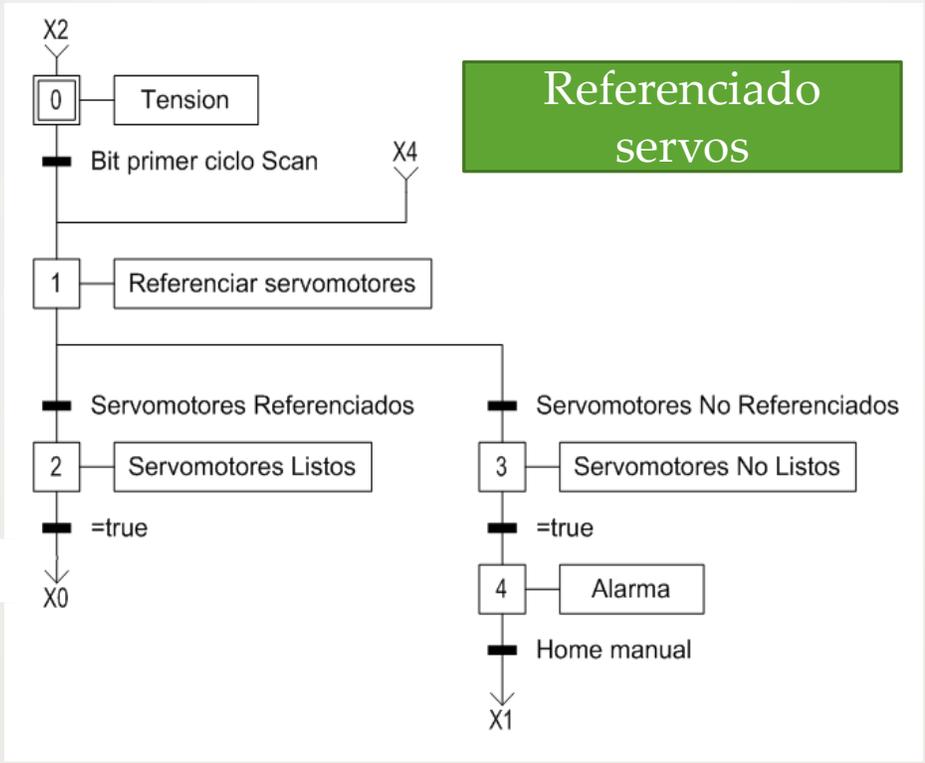
17

Grafcet

X4

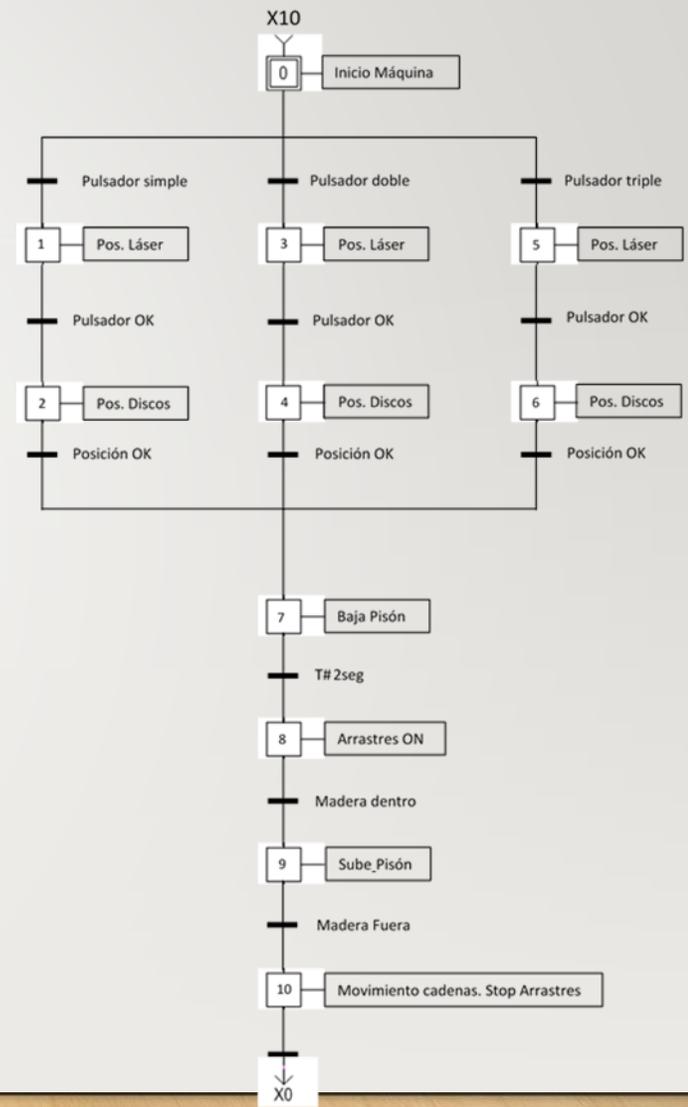


Grafcet general



Referenciado servos

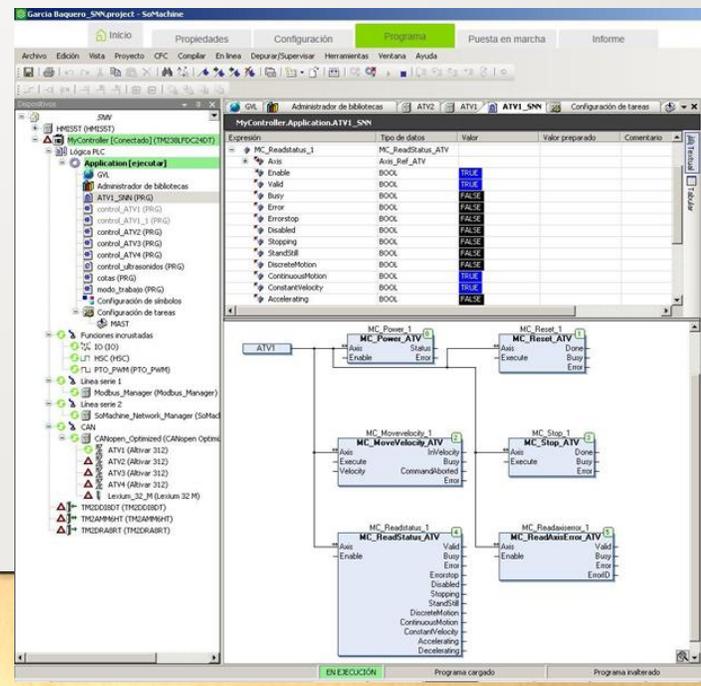
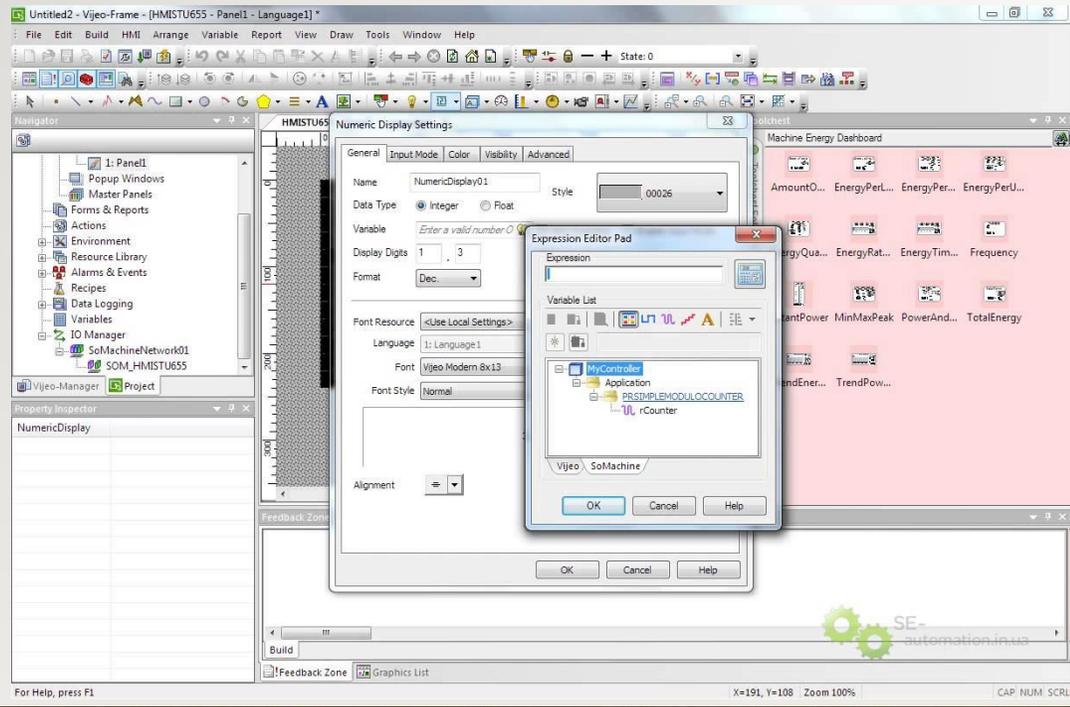
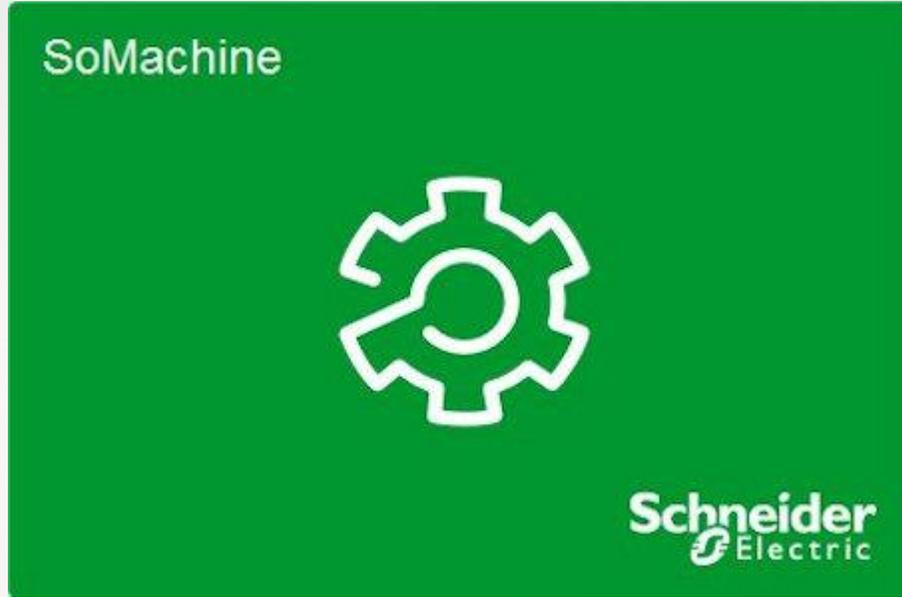
Grafcet B27



18

Software

Software PLC
Somachine
Basado en Codesys





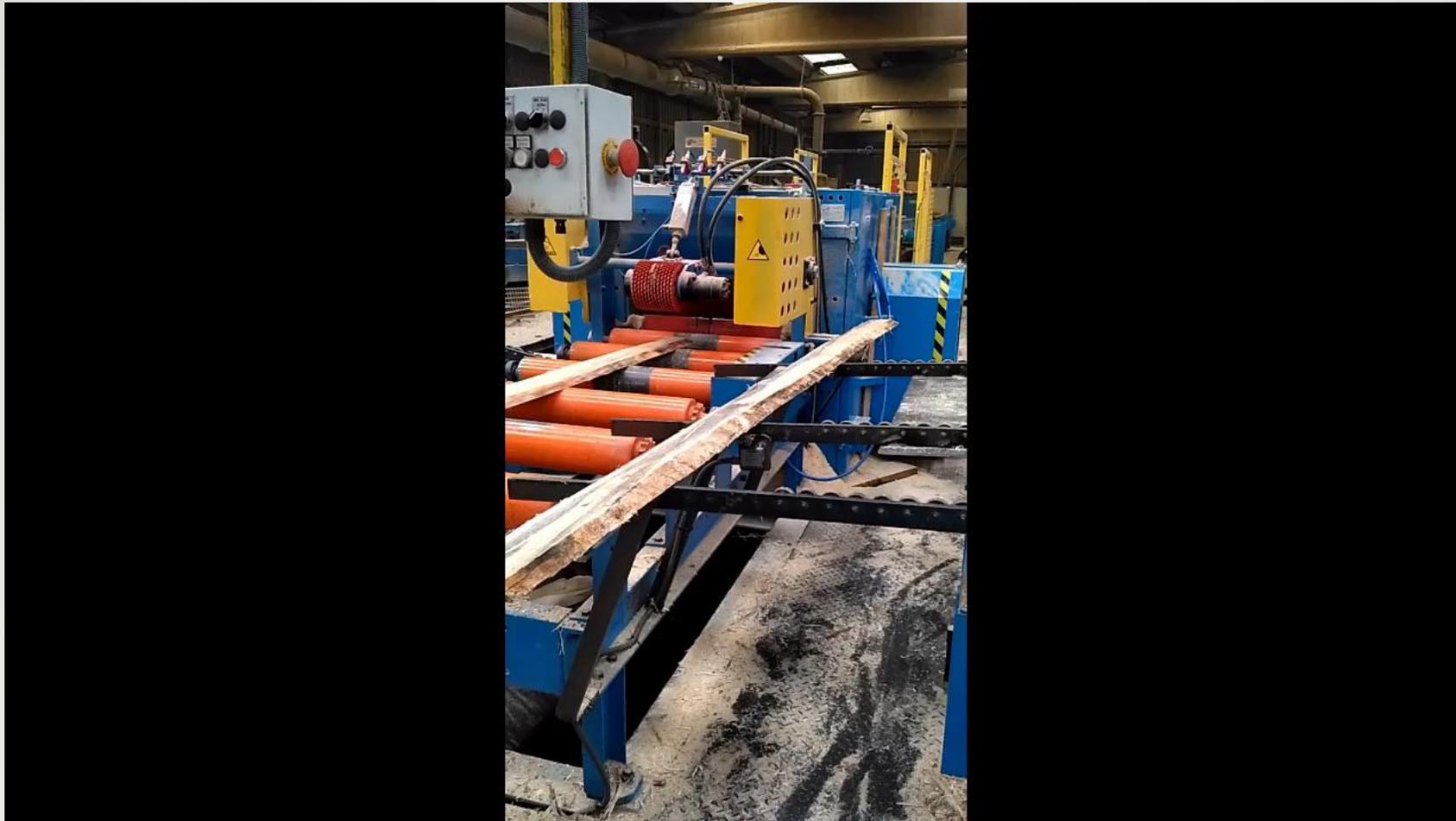
The screenshot displays the SoMove 2.2 software interface for configuring a drive system. The main window is titled "SoMove 2.2 - Untitled Project.psx". The interface is divided into several sections:

- Left Panel (Tree View):** Shows the project structure for "Lexium52", including sections like "Simply start", "Axis configuration", "Drive", "Reference switches and limit switches", "Scaling", "Limitations", "Standstill", "Position Register", "Relative Movement After Capture (RMAC)", "Operation configuration", "Motor control", "I/O functions", "Monitoring configuration", "Error handling", "Communication", "Encoder 2 configuration", and "Identification".
- Top Panel (Tabs):** Includes "My Device", "Parameters list", "Error memory", "Visualization", "Scope", "Tuning", "Motion Sequence", "Startup messages", and "Operate".
- Scaling Section:** A green-bordered box highlights the "Scaling" section, which includes "Mechanics", "User Definitions", and "Gear Belt(1)". The "Scaling" section is further divided into "Position", "Velocity", and "Acceleration". The "Position" section shows "1 usr_p = 0.1 mm" and "1 usr_v = 1 m/s". The "Acceleration" section shows "1 usr_a = 1 m/s²". A hint below states: "Hint: The settings for 'Position Velocity/Ramp' are the minimum values you can use as input values to describe your mechanical system ...".
- Gear Belt(1) Configuration:** A 3D model of a gear belt system is shown. The "Gear Belt(1)" section includes a "Teeth/ Turn" input set to 20. Below the model, there are inputs for "Teeth" (set to 5) and "Length" (set to mm). To the right, a table lists parameters: "Pos_Num = 1", "Pos_Denom = 1000", "Vel_Num = 60000", "Vel_Denom = 100", "Acc_Num = 60000", and "Acc_Denom = 100". A "Reduce" button is present below the table.
- Debug Zone:** Shows "TieoffFactor_p = 10", "TieoffFactor_v = 1/1000", and "TieoffFactor_a = 1/1000". The "Application Units" are set to "1mm".
- Bottom Panel (Control):** Contains "Operating state" (POWER DISABLED, Ready To Switch On), "Operating modes" (Jog, Continuous, Step Movement), "Proceed" (Low speed, High speed), "Control" (CTRL 1, CTRL 2, Force), and "Global Info" (HALT = inactive, _p_set = 0.1 [usr_p], _accessInfo = 10, _DfNonstick = 10 Control, _DCOffspms_set = Jog, Ref_OK = inactive).
- Attention Box:** A green box on the left side of the main window contains the text: "Attention: Smallest defined user unit is also the smallest positioning unit of the drive."

Conclusiones

- ✓ Ampliación de conocimientos complementando la teoría aprendida en clase.
- ✓ El proceso de automatización es elaborado.
- ✓ La automatización de procesos es un sector que está continuamente evolucionando.

21 | Video dimostrativo





Escuela Técnica Superior de Ingeniería del Diseño



UNIVERSITAT
POLITÈCNICA
DE VALÈNCIA

FIN DE LA PRESENTACIÓN

GRACIAS POR SU ATENCIÓN

AUTOR: José Peiró Alcázar
TUTORA: Marina Vallés Miquel
Septiembre 2018