Project no. 3: Control system for a cutting machine in material processing line

The customer demands a control system for a cutting machine, employed in continuous material processing line. The cutting is based on a rotating drum with knives (Fig. 1).

The control system should be based on an electronic cam in dependence of material distance / length (Fig. 2). The electronic cam is essential to achieve high cutting accuracy even during material acceleration or deceleration. The control system should include a mode for material feeding into the line or for material removing from the line. Other requirements are:

- material distance is sensed by an encoder with BiSS-C protocol
- system should contain a possibility to emergency stop the machine
- cutting operation should be settable and operated from a remote PC
- control system should contain the possibility of immediate cut
- actual status should be also displayed locally using LCD and signal lights

The customer demands a complete software solution for an existing HW with source code (programming language C), including code documentation and user guide.

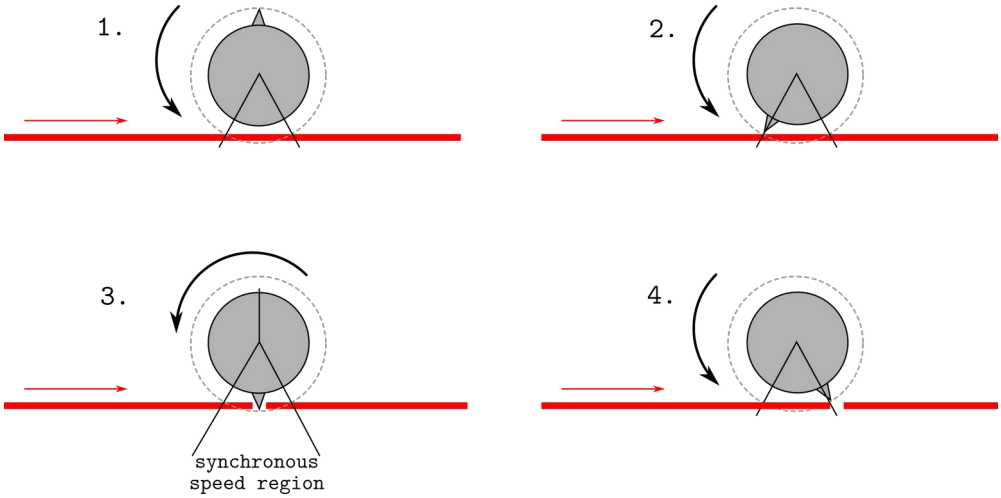

Fig. 1: Cutting process

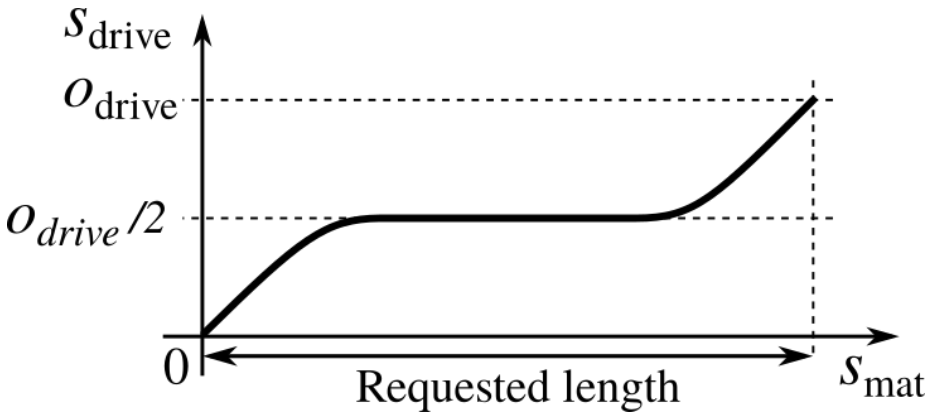

Fig. 2: An example of electronic cam
(s_{drive} – circumferential distance of cutting machine, s_{mat} – material distance, o_{drive} – cutting drum circumference)

Task 1 – Missing information

Task 2 – Project management and time schedule 1

Roles assignment:
(name) – (role)

1. …… - ……..
2. …… - ……..
3. …… - ……..
4. …… - ……..

Time schedule - initial

Task & responsible person	Week												
	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13

Task 3 – Meeting with customer - agenda

1. ……..

2. ……..

3. ……..

4. ……..

5. ……..

6. ……..

7. ……..

8. ……..

Task 4 – Firmware architecture and Time schedule revised

Task & responsible person	Week												
	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13