

(empat) periode sejarah perkembangan SISTEM KENDALI DIGITAL menurut Astrium & Wittenmark (1984)

- * Jaman PERINTIS ~ 1955 → TRW + TRW
- * Jaman DDC ~ 1962 → ICC + Ferranti Argus
- * Jaman MINIKOMPUTER ~ 1972 →
- * Jaman MICROCOMPUTER ~ 1984 →

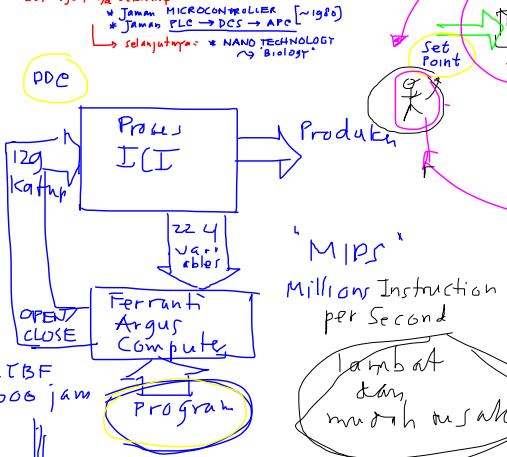
ENIAC

dari 1984 1/4 sekarang

* Jaman MICROCONTROLLER [~1980]

* Jaman PLC → DCS → APC

* selanjutnya * NANO TECHNOLOGY



PLC = Programmable Logic Controller

DCS = Distributed Control System ← LAN

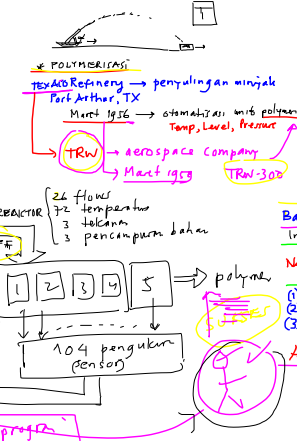
APC = Advanced Process Control

AI

"Smart Tech..."

SEJARAH SISTEM KENDALI DIGITAL

→ PDI (1939-1945)



SISTEM KENDALI DIGITAL

2007 10x pertemuan (termasuk MID & FIN)

100% * Praktikum INDIVIDU

* Praktikum KELOMPOK

Course website: <http://www.uns.ac.id/riksa/ang/kuliah/>

Referensi: "Computer Controlled Systems" [1984]

Astrum & Wittenmark

Penilaian: MID, FIN, Praktikum Kelompok, Praktikum Individu

Materi:

- * PENDAHULUAN: Intro to Digital Control Systems
- * PEMODELAN: Digital Control Systems Modelling
- * ANALISIS: Digital Control Systems Analysis & Design
- * DESAIN

Bab I PENDAHULUAN

Introduction to the Digital Control Systems

System Kontrol Digital

Nama lain

English

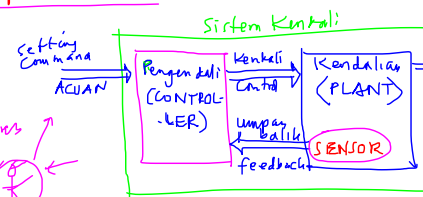
Bahasa Indonesia

(1) Discrete-time Control Systems: Sistem Kontrol Waktu Diskontinu

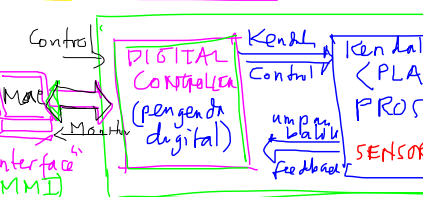
(2) Sampled-Data Control Systems: Sistem Kontrol Data Terapil

(3) Computer-controlled Systems: Sistem (di) Kontrol (komputer) Komputer

Apa itu SKD??



SISTEM KENDALI DIGITAL:



* Pengetahuan untuk mempelajari (SKD):

- (1) Pengetahuan ttg. PROSES
- (2) Pengetahuan ttg. Teknologi (Komputer) DIGITAL
- (3) Pengetahuan ttg. INSTRUMENTASI
- (4) Teori KENDALI

BAB II PEMODELAN SKD:

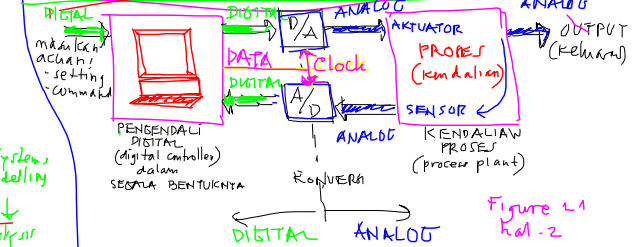
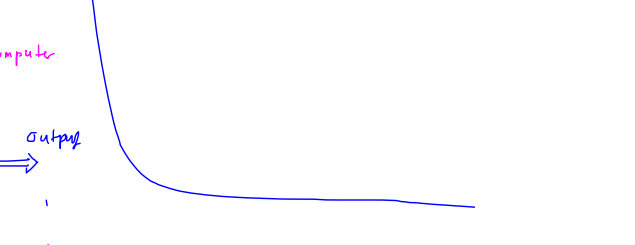


Figure 2.1 hal. 2



Macam-macam PENGENDALI DIGITAL:

- * GERBANG LOGIKA: NOT, AND, OR, NAND, NOR, XOR...
- * RANGKAIAN LOGIKA:
 - * Kombinatorik: HA, FA,
 - * Sekuensial: flip-flop, counter, register, dll
- * PROSESSOR → MICRO CONTROLLER
- * PLC, DCS, APC, ...
- * KOMPUTER → PC
- * JARINGAN KOMPUTER