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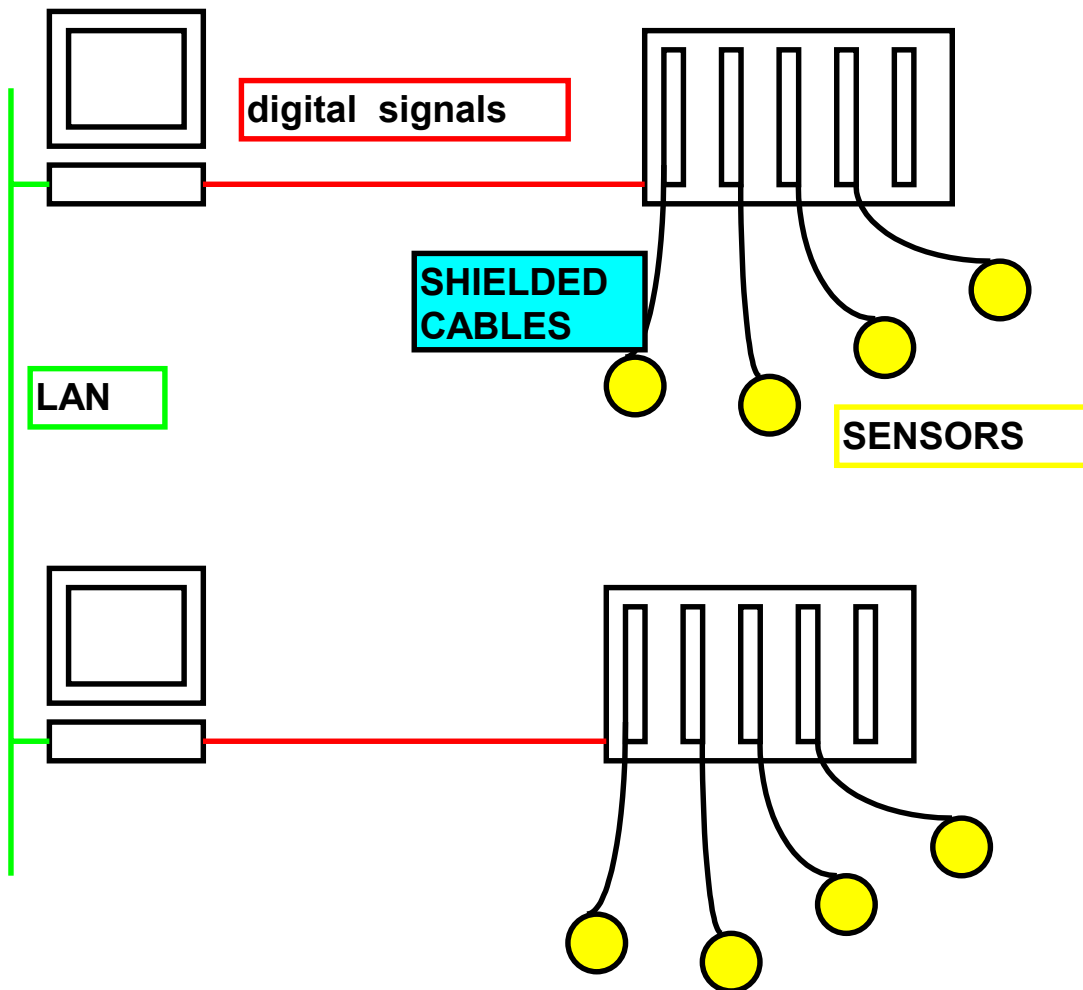
Direct Bus :

**Distributed Reduced Cost T field
bus system**

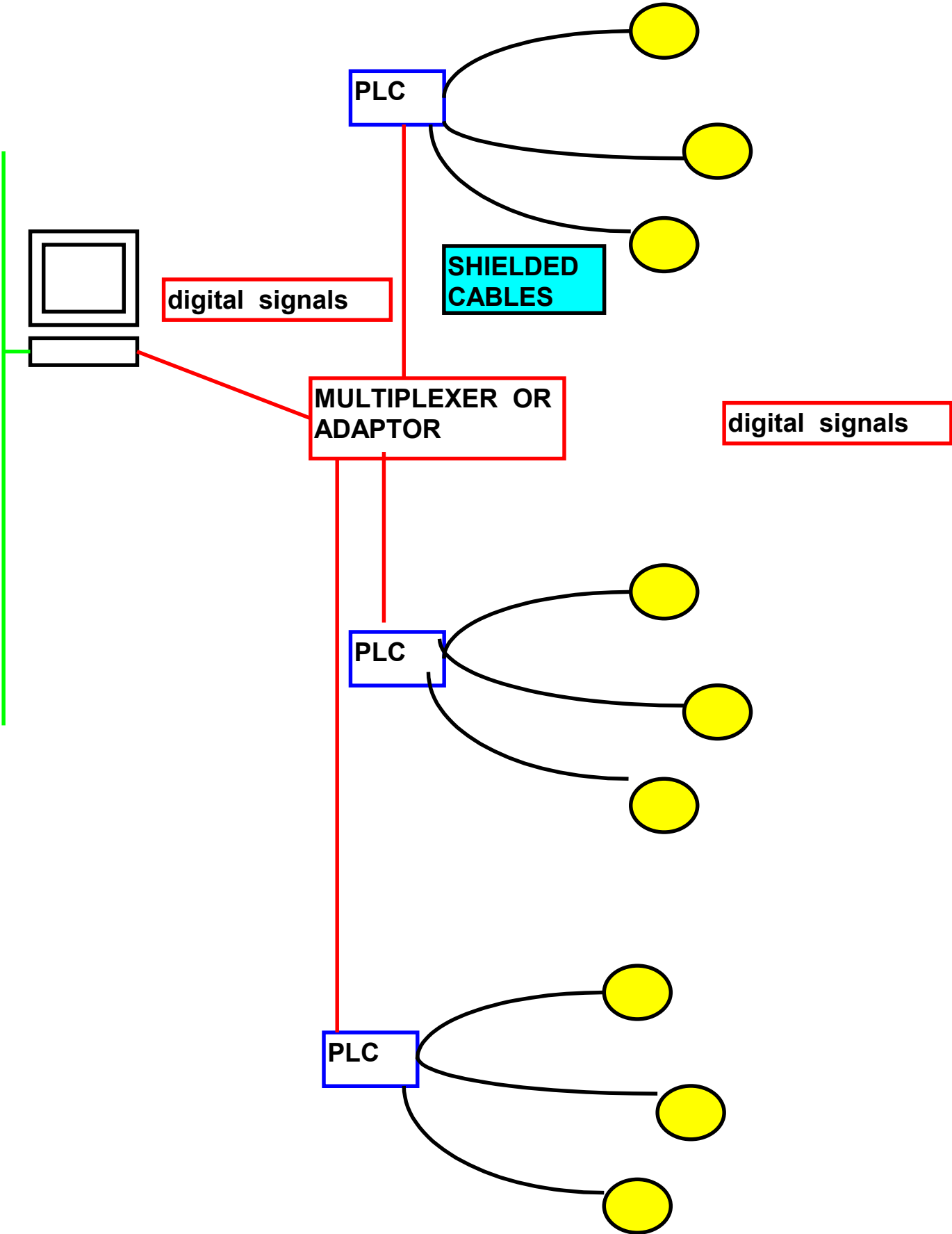
Dr G. Sergiadis

DATA MONITORING

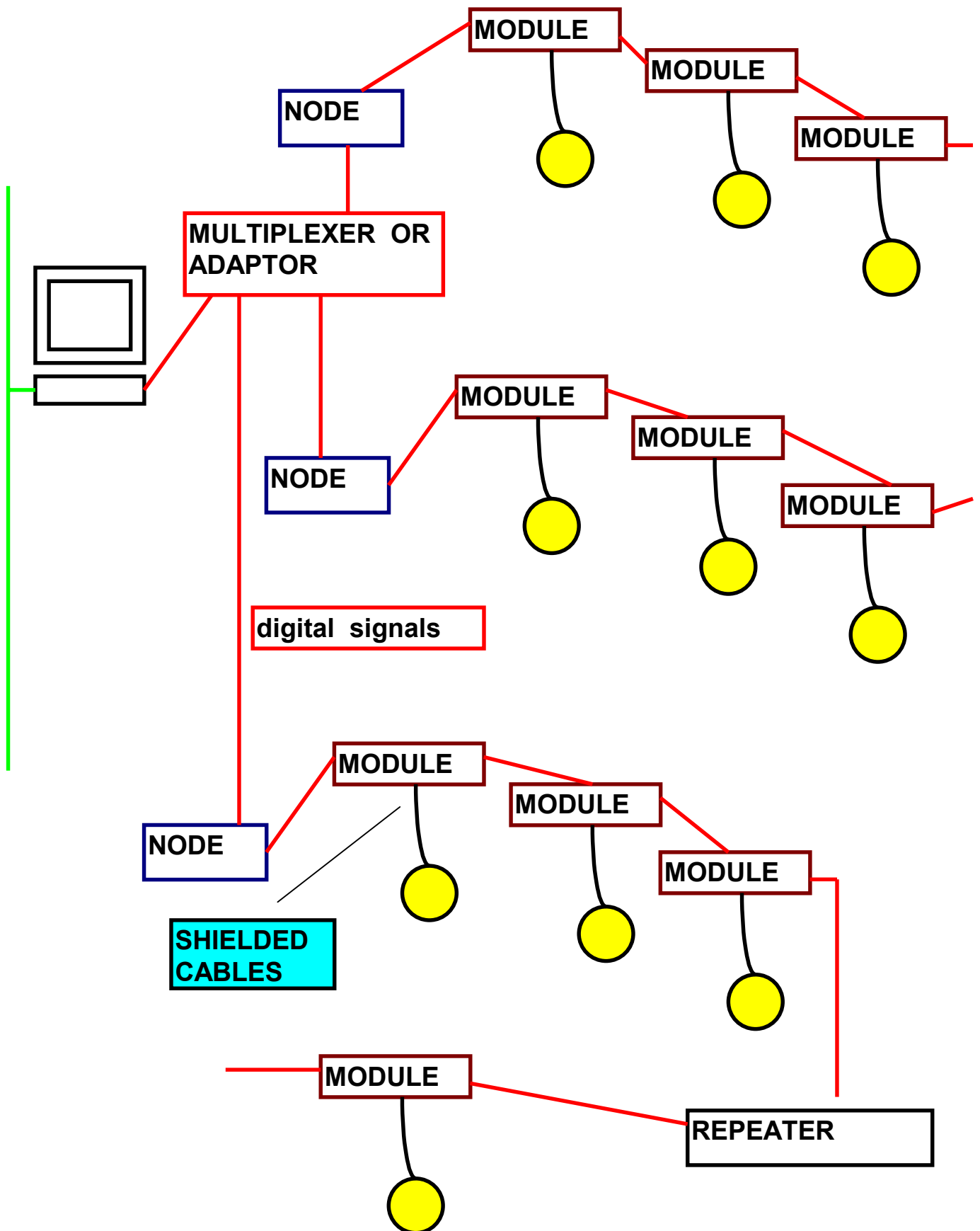
1. >10 years ago



2. > 5 years ago



3. Actual and > 2 years ago



4. Digital Information Channels

Time division Multiplexing

Nth module packet



→
TIME



→
TIME

5.Information throughput efficiency ITE



$$\text{ITE} = \frac{\text{INFORMATION}}{\text{TOTAL PACKET}}$$



BUS SPEED // E M I

6. Bus system variations

1. Sequential, random, or priority driven information exchange

**2. Master - slave
Listener - Talker**

3. Auto configuration systems

4. Support Software

7. Optimisation

1. High number of sensors

2. Cabling problems

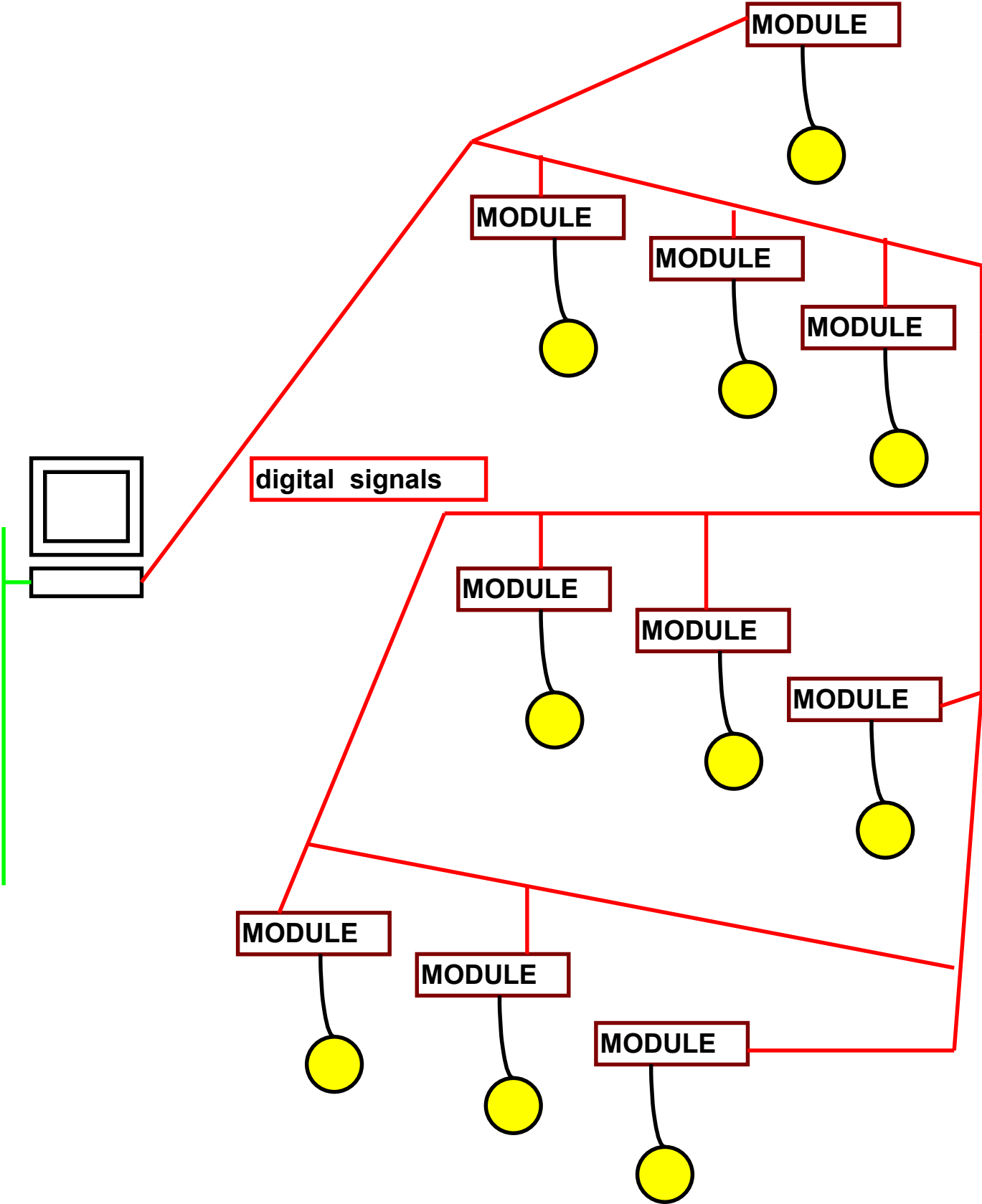
3. EMI

4. Sampling speed

5. Security check

6. Cost

8. Direct Bus



9. Direct Bus Principles

1. Sequential addressing

All modules are visited at each cycle sequentially

2. Module Identification, Data input, Data output, in combined software and hardware mode

3. Each module = one controller with integrated a/d or d/a or dig I/Os and discrete components

4. Advantages :

High ITE,

Possible experiment synchronisation,

Low-cost : modules, shielding and topology

Low EMI produced,

Distributed by initial design