YUTECH AUTOMATION
POWERED BY MICROVERSE DCS
MADE IN BHARAT

MicroVerse automation pvt.ltd. SINCE 1978

YUTECH ™

एक स्वप्न, एक लक्ष्य

PARTNERSHIP WITH COMMON VISION, COMMON MISSION, COMMON GOAL
INDIAN DESIGN, GLOBAL IMPRESSION
YUTECH IS MICROVERSE DCS'S GLOBAL DISTRIBUTOR AND CHANNEL PARTNER
FOR SUGAR AND ALLIED INDUSTRIES

YU SINCE 1978 ™

YUTECH

MicroVerse automation pvt.ltd.

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YUTECH AUTOMATION
POWERED BY MICROVERSE DCS
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UNMATCHED AND UNLIMITED SCALABILITY FROM 100 TO 30000 I/Os IN ONE ETHERNET SUBNET MASK

GPRS MODEM FOR SMS / ALERTS

CLOUD CONNECTIVITY

ERP CONNECTIVITY

OPTIONAL PA SYSTEM ANNOUNCEMENTS IN LOCAL LANGUAGE

OPTIONAL SCREENS IN LOCAL LANGUAGE

NO LIMITS ON TAGS OR SCREENS

NO LIMITS ON THIRD PARTY DATA TAGS

NO DREADED EXPENSIVE UPGRADES

DCS: MICROSYS 3200 ET, CAN BE CONFIGURED AS A COMPLETE REDUNDANT SYSTEM WITH TRIPPLE REDUDANCY

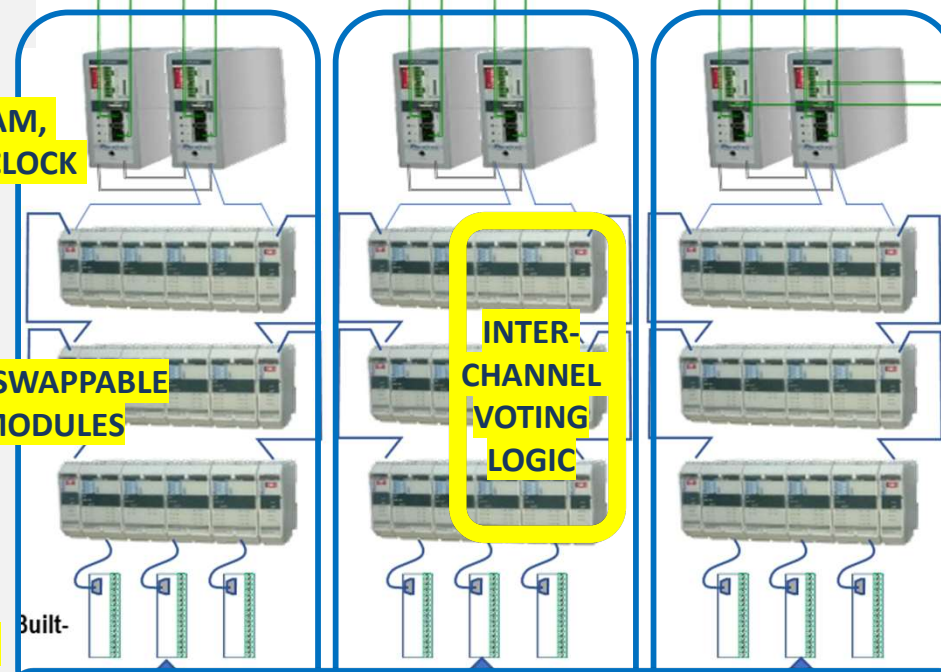512MB RAM, 750MHz CLOCK SPEED

REDUDANCIES OFFERED:
1. CONTROLLER
   - LOCAL PANEL LEVEL
   - COMPLETE SYSTEM LEVEL
2. COMMUNICATIONS
   - INTERNAL IO BUS
   - ETHERNET
   - PROFIBUS
   - MODBUS RTU
3. POWER SUPPLY
4. INPUT AND OUPUT
5. COMPLETE SYSTEM AS A STANDBY REDUNDANT SYSTEM

HOT SWAPPABLE I/O MODULES

INTER-CHANNEL VOTING LOGIC

OUR TRUE DISTRIBUTED CONTROL SYSTEM HAS NO REMOTE I/O PANELS INSTEAD IT HAS REMOTE AND DISTRIBUTED CONTROLLER PANELS AT VARIOUS STATIONS

THUS, CONTROL IS DISTRIBUTED NOT CENTRALLIZED

GPRS MODEM

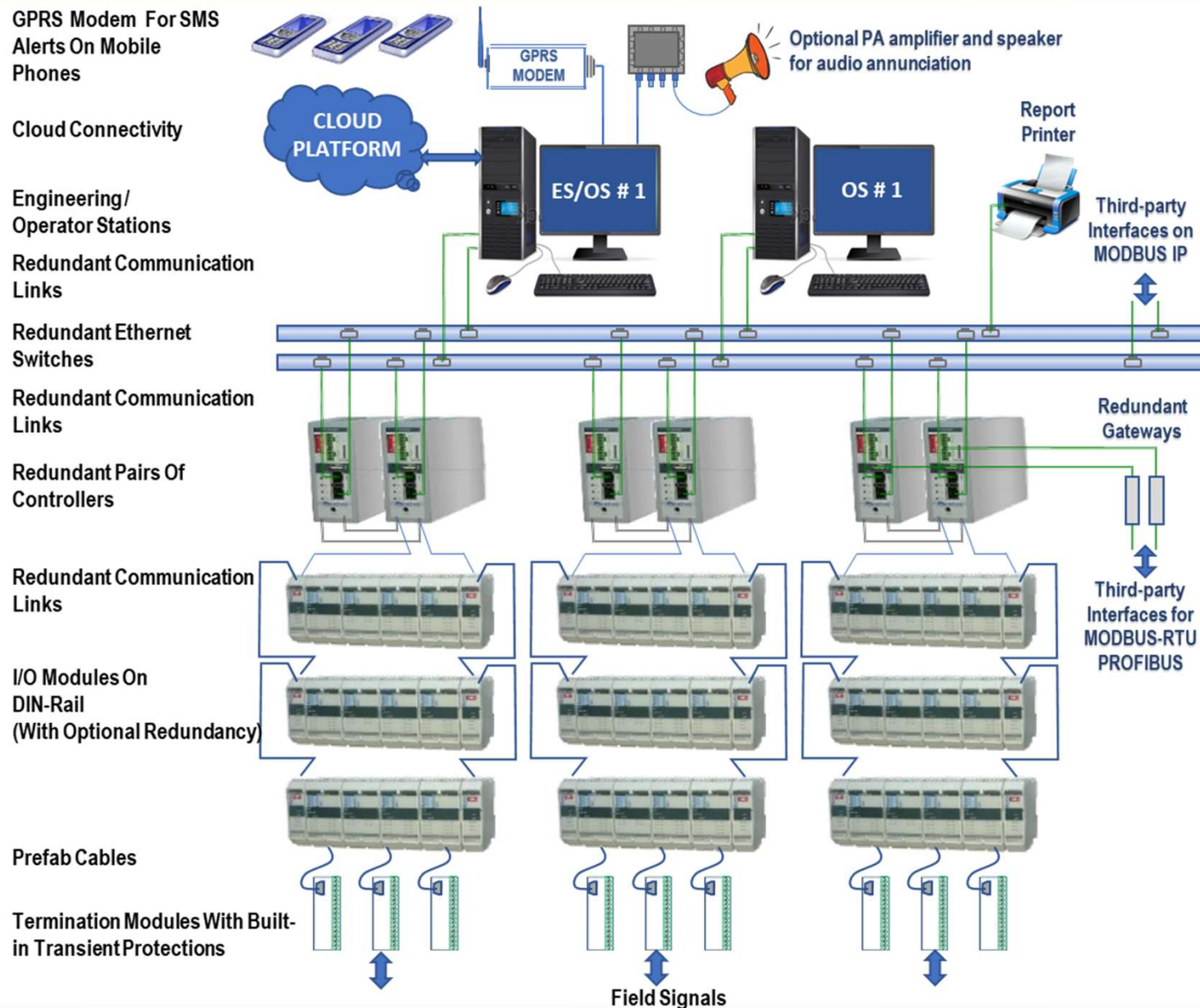CLOUD PLATFORM

ES/OS # 1

OS # 1

Report Printer

Third-party Interfaces or MODBUS

Redundant Gateways

Third-party Interfaces for MODBUS-RTU PROFIBUS

Built-

SYSTEM 1: OPERATIONAL

SYSTEM 2: REDUNDANT STANDBY - 1

SYSTEM 3: REDUNDANT STANDBY - 2

MICROVERSE DCS
MICROSYS 3200 ET SYSTEM:
ARCHITECTURE

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GPRS Modem For SMS Alerts On Mobile Phones

Cloud Connectivity

Engineering / Operator Stations

Redundant Communication Links

Redundant Ethernet Switches

Redundant Communication Links

Redundant Pairs Of Controllers

Redundant Communication Links

I/O Modules On DIN-Rail (With Optional Redundancy)

Prefab Cables

Termination Modules With Built-in Transient Protections

GPRS MODEM

Optional PA amplifier and speaker for audio annunciation

CLOUD PLATFORM

ES/OS # 1

OS # 1

Report Printer

Third-party Interfaces on MODBUS IP

Redundant Gateways

Third-party Interfaces for MODBUS-RTU PROFIBUS

Field Signals

MICROVERSE DCS
MICROSYS 3200 ET SYSTEM KEY FEATURES

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- ➢ **UNMATCHED MEMORY - 512MB NON-VOLATILE (FLASH) MEMORY 512 MB EXPANDABLE TO 4 GB**

- ➢ **BEST CLOCK TIME - 720MHz AND BEST SCAN TIME: 100mSEC**

- ➢ **BUMPLESS, BALANCE-LESS, AND GLITCH-FREE REDUNDANCY**

- ➢ **UNLIMITED TAGS**

- ➢ **INEXPENSIVE UPGRADES**

- ➢ **BUILT-IN CLOUD CONNECTIVITY**

- ➢ **BUILT-IN INDUSTRIAL INTERNET OF THINGS (IIOT) CONNECTIVITY**
    - ➢ **BUILT-IN APIs FOR INTEGRATION WITH CLOUD PLATFORMS, MOBILE APPS TO MAKE DATA ACCESSIBLE ON CUSTOM-BUILT MOBILE PLATFORMS AND WEB-DASHBOARDS.**

- ➢ **BUILT-IN ERP CONNECTIVITY**

- ➢ **A HIGHLY FLEXIBLE AND SCALABLE SYSTEM ALLOWS CONFIGURATIONS LOWER THAN 100 I/OS TO OVER 16,000 I/OS WHICH CAN BE EXTENDED EVEN TO 24000 I/Os PER SUBNET MASK. MEANING A NEW NETWORK EXPANDS YOUR I/Os BY 16000 - 24000. THUS, THERE IS NO TOP LIMIT ON I/Os.**

MICROVERSE DCS
MICROSYS 3200 ET SYSTEM ARCHITECTURE:

- SERVER-LESS BASIC CONFIGURATION WITH MULTI-MASTER, MULTI-SLAVE TOPOLOGY

- AUTOMATIC, BUMP-LESS, BALANCE-LESS, AND GLITCH-FREE REDUNDANCIES AT ALL LEVELS AS BELOW:
    - CONTROLLERS
    - I/O MODULES
    - COMMUNICATION BUSES BETWEEN CONTROLLERS AND I/O MODULES
    - COMMUNICATION BUSES BETWEEN CONTROLLERS, AND ENGINEERING / OPERATOR STATIONS
    - POWER SUPPLIES.

- DIAGNOSTIC INFORMATION ABOUT EVERY SYSTEM ELEMENT IS AVAILABLE ON ENGINEERING AND OPERATOR STATIONS

- HOT-SWAPPABLE SYSTEM ELEMENTS ARE HOT-REMOVABLE / HOT-INSERTABLE

- MEAN TIME BETWEEN FAILURES (MTBF): 12,07,420 HRS.

- MEAN TIME TO REPAIR (MTTR): LESS THAN 30 MINUTES (>1/2 HR), TO REPLACE HOT-SWAPPABLE MODULE.

- SYSTEM AVAILABILITY: 0.999999 I.E. BETTER THAN 99.9999%

MICROVERSE DCS
MICROSYS 3200 ET SYSTEM - CONTROLLER:
PRODUCT CODE: ET-CN-02-2

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- ➢ **FACILITY FOR SD CARD**

- ➢ **IO SUB-SYSTEM REDUNDANT COMMUNICATION PORTS: 2**

- ➢ **TWO 100MBPS REDUNDANT ETHERNET PORTS FOR ENGINEERING AND OPERATOR STATIONS**

- ➢ **TWO RS 232 SERIAL PORTS**

- ➢ **USB 2.0 PORT: 1 FOR INTERFACING THIRD-PARTY COMMUNICATION DEVICES**

- ➢ **I/Os PER CONTROLLER: 512 OR 32 MODULES. THIS FEATURE MAINTAINS BEST-IN-CLASS SCAN TIME**

- ➢ **BUILT-IN DRIVERS FOR MODBUS-IP AND MODBUS-RTU AND FOR AUDIO PORT (1 NO.)**

- ➢ **POWERFUL DIAGNOSTICS**

- ➢ **24 VDC POWER SUPPLY**

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➢ **CHANNEL-TO-CHANNEL ISOLATION FOR ANALOG MODULES**

➢ **GROUP ISOLATION DIGITAL MODULES**

➢ **ALL MODULES COME WITH STATUS INDICATION LEDS FOR INDIVIDUAL CHANNELS**

➢ **ALL I/O MODULES AND BUS INTERFACE MODULES ARE DIN-RAIL MOUNTED AND STACKED TOGETHER**

➢ **CONTROLLERS ARE DIN-RAIL MOUNTED**

➢ **ALL I/OS AND INTERFACE MODULES ARE HOT-SWAPPABLE**

BUS CONNECTOR: T-BUS

- BUS CONNECTOR BACK-PLANE TO INSTALL HOT-SWAPPABLE MODULES

ANALOG INPUT MODULES: ET-AI-2-8, ET-AI-2-16

- 8-CHANNEL AND 16-CHANNEL 16-BIT RESOLUTION ANALOG INPUT MODULE
- ELECTRONIC CURRENT-LIMITING TO 30 MA

DIGITAL INPUT MODULES: ET-DI-2-8, ET-DI-2-16

- 8-CHANNEL AND 16-CHANNEL DIGITAL INPUT MODULE

ANALOG OUTPUT MODULES: ET-A0-2-4, ET-A0-2-8

- 4-CHANNEL AND 8-CHANNEL 16-BIT RESOLUTION ANALOG OUTPUT MODULE

DIGITAL OUTPUT MODULES: ET-DO-2-8, ET-DO-2-16

- 8-CHANNEL AND 16-CHANNEL DIGITAL OUTPUT MODULE
- 300 MA OUTPUT CURRENT PER CHANNEL WITH BUILT-IN SHORT-CIRCUIT PROTECTION

PULSE INPUT MODULES: ET-PI-2-8

➢ 8-CHANNEL PULSE INPUT MODULE
➢ PULSE FREQUENCY MEASUREMENT UP TO 10 KHZ

SER INPUT MODULES: ET-SE-2-15

➢ 15 CHANNEL SER MODULE
➢ EVENT RESOLUTION: 1 MILLI-SECOND
➢ ACQUIRED CHANNELS CAN BE INTEGRATED INTO A SYSTEM OPERATING LOGIC

BUS INTERFACE MODULES: ET-BIM-1, ET-BIM-2

➢ REDUNDANT COMMUNICATION INTERFACE BETWEEN I/O MODULES AND CONTROLLERS
➢ 24 VDC POWER TO I/O MODULES
➢ PREFAB CABLES

SYSDEV - FUNCTIONAL BLOCK DIAGRAMS (FBD) APPLICATION LOGIC DEVELOPMENT TOOL:

➢ A LIBRARY OF OVER 100 FUNCTION BLOCKS.

➢ USER-DEFINED FUNCTION BLOCKS FOR REPETITIVE FUNCTIONS OR PROPRIETARY LOGIC/S.

➢ ONLINE OR OFFLINE LOGIC SIMULATION.

➢ ANY MODIFICATIONS IN LOGIC CAN BE DOWNLOADED FROM THE ENGINEERING STATION IN A RUNNING PLANT WITHOUT NECESSITATING A SHUTDOWN AND WITHOUT RESULTING IN ANY PROCESS UPSETS.

➢ BEING TRUE DCS, ALL THE CONTROLLERS SHARE A GLOBAL DATABASE RESULTING IN A SINGLE HOMOGENOUS SYSTEM WITH GEOGRAPHICALLY SPREAD MULTIPLE CONTROLLERS.

➢ BUILT-IN DRIVERS FOR MODBUS FOR EASY INTEGRATION OF MULTIPLE THIRD-PARTY PRODUCTS OVER MULTIPLE GATEWAYS.

MICROVERSE DCS

MICROSYS 3200 ET SYSTEM:
SOFTWARE TOOLS

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PSCOPE 22 - GRAPHICS USER INTERFACE:

➢ GRAPHICS USER INTERFACE FOR VISUALIZATION OF PROCESS, TRENDS, ALARM LOGGING, EVENT LOGGING, OPERATOR TRACKING, AND OPERATOR GUIDANCE MESSAGES.

➢ 9 LEVELS OF ACCESS CONTROL.

➢ EACH ES / OS CAN ACT AS A HISTORIAN, ELIMINATING THE NEED FOR A SEPARATE HISTORIAN.

BATCH MANAGEMENT TOOLS:

➢ EASILY DEVELOPING HUNDREDS OF RECIPES ON THE FLY.

➢ GENERIC RECIPES CAN BE SIMULTANEOUSLY CARRIED OUT WITH MULTIPLE EQUIPMENT.

➢ MANUAL, SEMI-MANUAL, AND AUTOMATIC STEPS CAN BE ADDED TO THE RECIPES OR RECIPES CAN BE EXPANDED FROM PRE-CONFIGURED TEMPLATES.

➢ DETAILED BATCH REPORTS OFFER FULL ACCOUNTABILITY AND VISIBILITY FOR EVERY BATCH.

YUTECH SUGAR MILL PROCESS INSTRUMENTS

MEASURING SUGARS BRIX BY BRIX

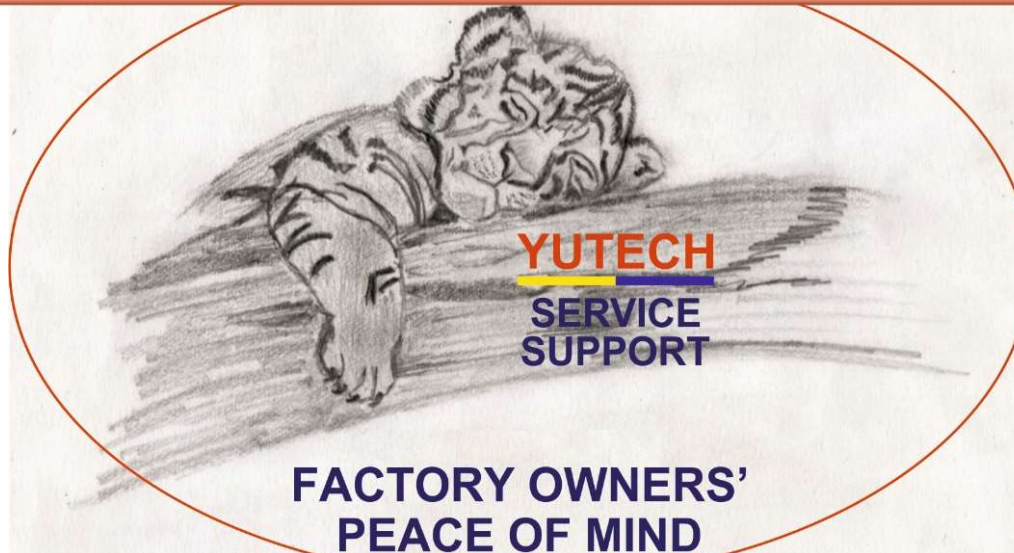**YUTECH FLOW CONTROLS**

CONTROL SAVE EARN

YUTECH AUTOMATION

THE SWEETENER TO SUCCESS

YUTECH INSTRUMENTS

ANALYZE TRANSMIT CONTROL COMMUNICATE

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SERVICE
SUPPORT

**FACTORY OWNERS'
PEACE OF MIND**

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**SAVE FUEL, REDUCE CARBON FOOTPRINT,
MAKE THE WORLD GREENER
AND YET, MAKE MONEY**

THANK YOU