

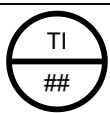
Industry 3.0 (Automation)

Industry 4.0 (Internet of Things)

SD-IoT Fault tolerance Scheme



Process Control



IoT



SDN



Existing Industrial Infrastructure

Proposed Industrial Infrastructure

Industrial Transducer

Edge Network

Access Network

Core Network

1

capture field data sn1

35°C

capture field data sn2

37°C

capture field data sn3

305°C

Cache to store data during acc. network downtime

HART

Fieldbus

IO-Link

Interpreter

Protocol Translation

2

Aggregation of data

value based error check

Voting based error check

Formatted sensor data

Initiate sensor node diagnostics, if required

Control

Data & transducer health information

3

Multiple Access networks

Custom Routing tables

Cache to store data during controller downtime

New node identification

4

Register/ store data

control UI

Realtime network configuration

Fault Recovery instruction/ low level network element diagnostics

Diagnostics

FSM Based Discriminator

LSTM based Anomaly detection