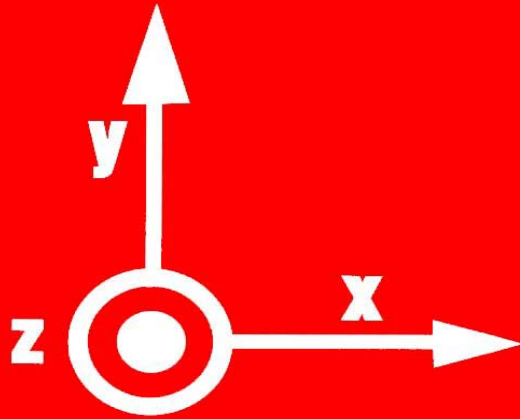




## Seismic Switch ( ESD )

## Seismic Instrumentation

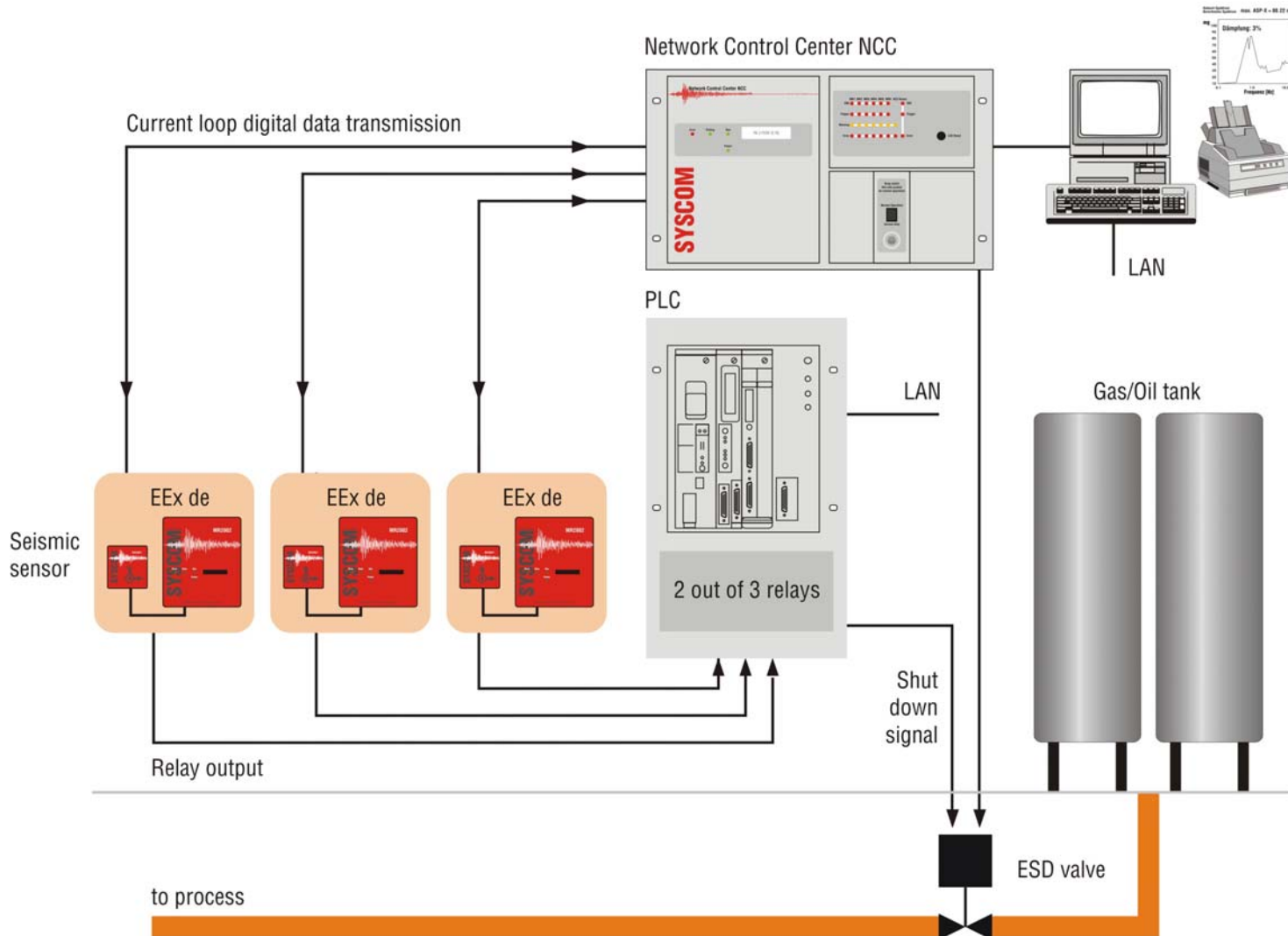
- Gas and Oil Tank Farms
- LNG Terminals
- Gas Distribution Networks



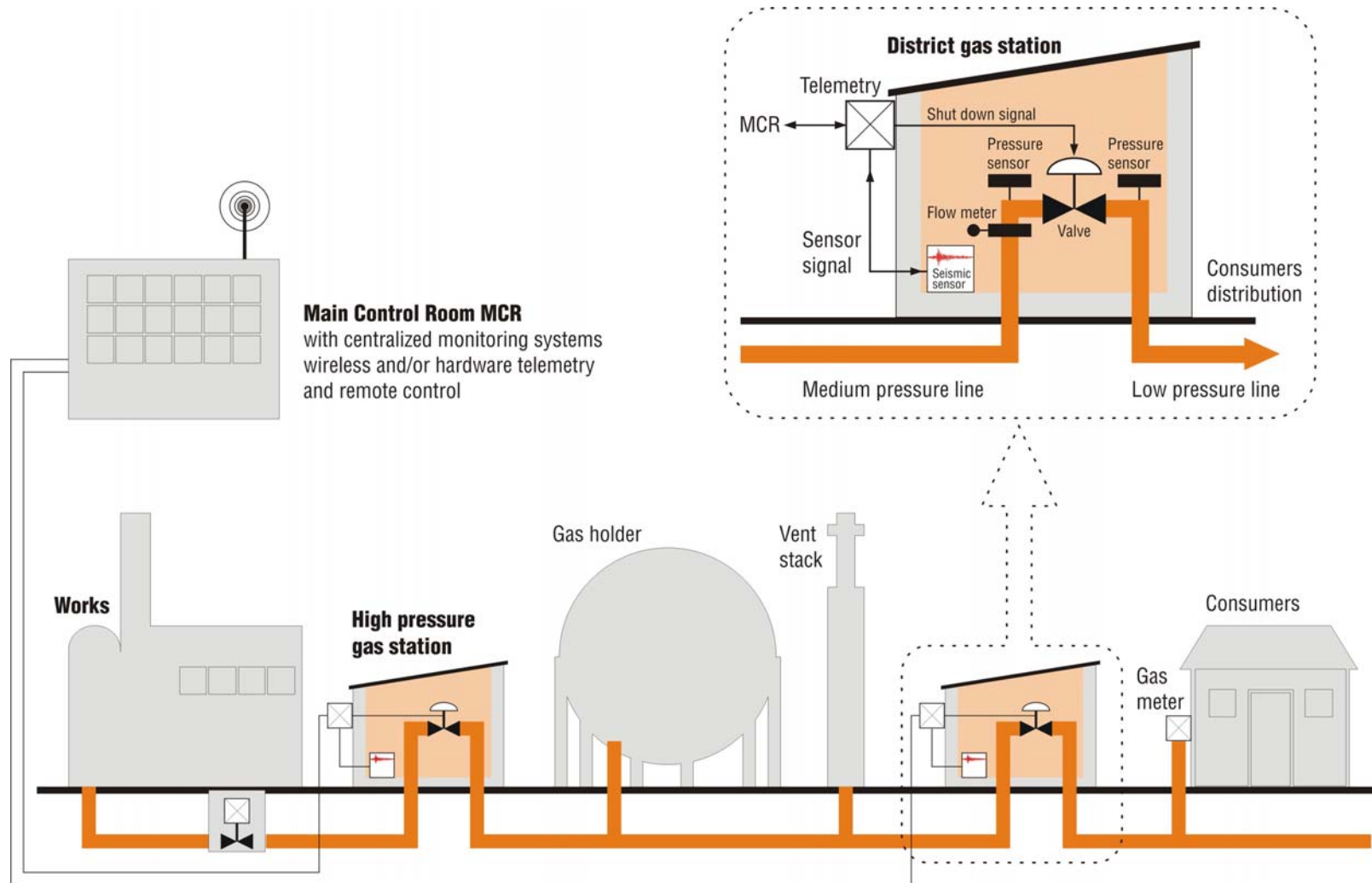
# Seismic Monitoring Systems for Vulnerable Industry



## Application: LNG / Gas / Oil Storage

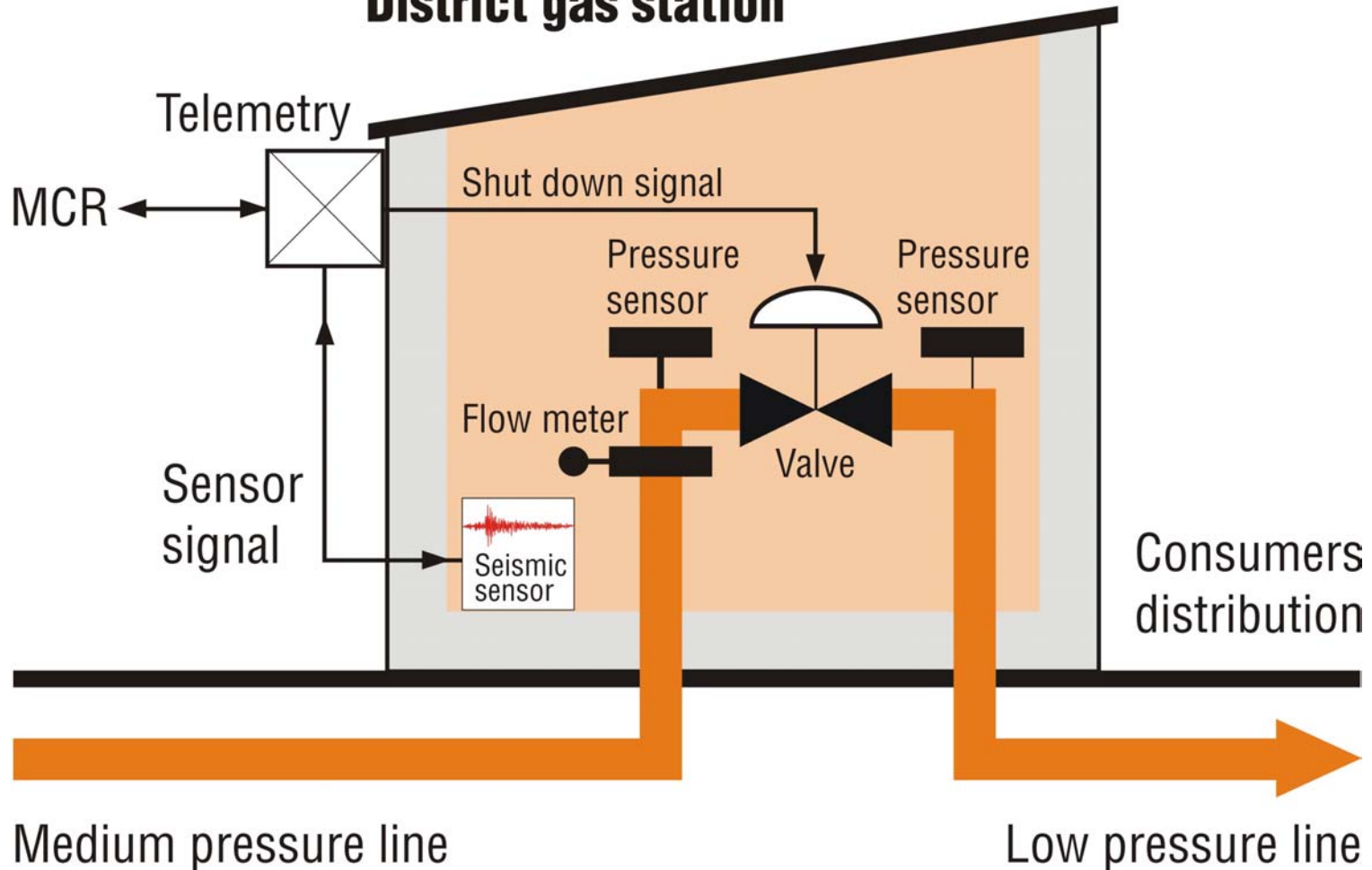


## Application: Gas Distribution Networks



## Application: Gas Distribution Networks

### District gas station



## Motion Sensor MS 2002 in hazardous area



EEx de housing

Motion Sensor MS 2002

Levelling platform

EEx e junction box



## Motion Recorder MR 2002 in hazardous area



EEx de housing

Window for Display

Motion Recorder MS 2002

Overvoltage protection

EEx e junction box



## Central Cabinet (Standard Design)



### Network Control Center NCC

- Up to 32 Recording Stations
- Common Trigger / Common Timing
- Voting Logic
- Indicator Panel (Recorder and Network Status)
- Alarm Output (3 Relays)

### Laptop PC (Windows)

- Near Real Time Analysis
- Automatic Alerting
- Peak Acceleration Display

### Printer

### Power Supply Unit

- Industrial AC/DC Converter

### Battery Back Up

- Autonomy approx. 36 hours

## Main advantages

- **Distributed recording > data backup**
- **Digital data transmission > no loss of raw signal information**
- **MEMS accelerometers > linear phase / frequency behaviour**
- **System integrated voting logic > safe autonomous ESD function**
- **Near real-time analysis > immediate load evaluation**
- **Comprehensive software > log; remote; message and archive function**
- **Comprehensive system documentation**
- **Turn key project management**
- **No re-calibration of sensors > low maintenance costs**
- **Full compliance with U.S. Reg. Guide / German KTA**

**BARTEC** protection of people and environment by safety of components, system and plants