PARTICLE MEASURING SYSTEMS®

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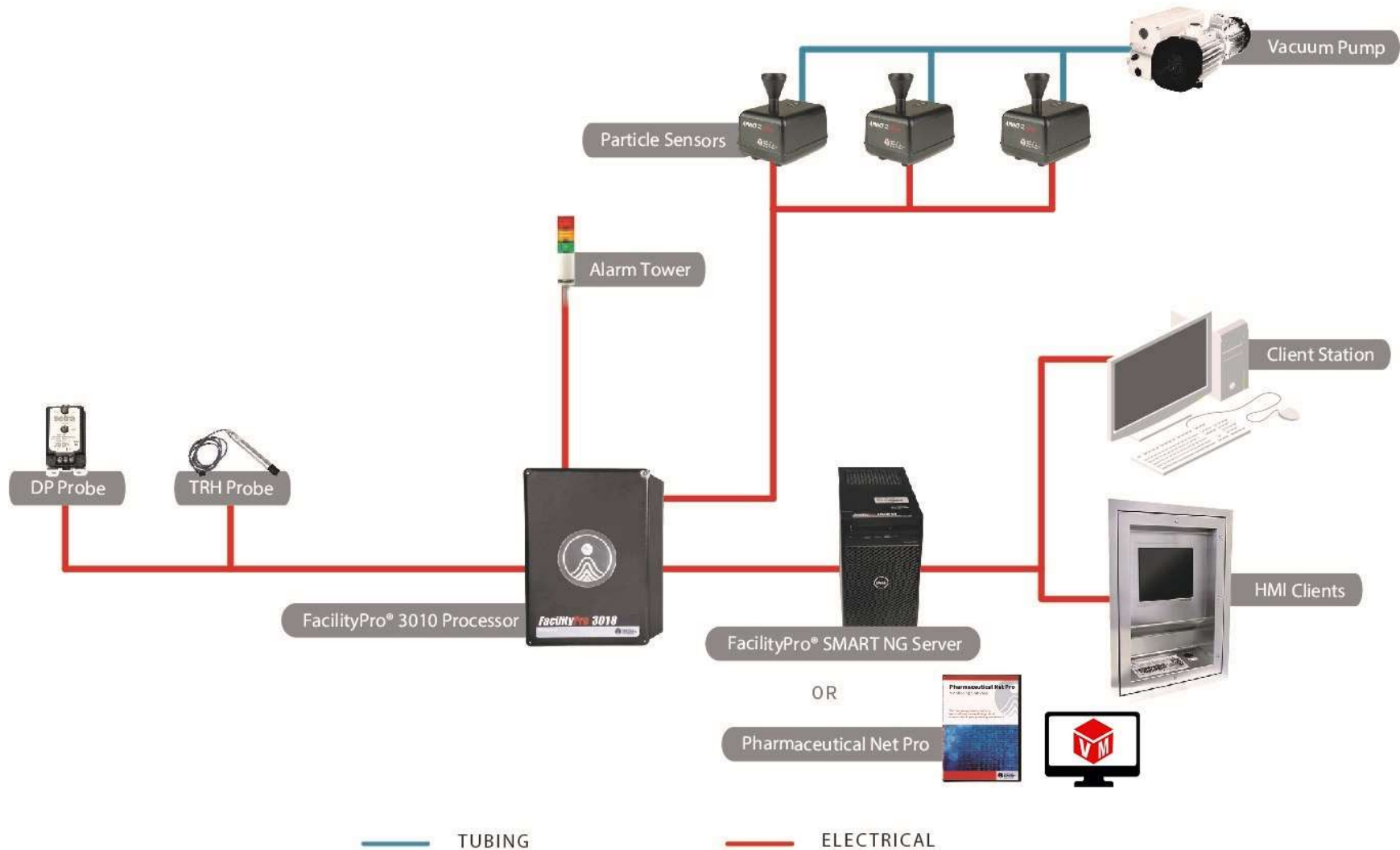
FacilityPro®

Environmental Monitoring Systems

Typical System Configurations

FACILITYPRO® 3010 SYSTEM 1

Particle Monitoring Central Vacuum

Vacuum Pump

Particle Sensors

Alarm Tower

Client Station

DP Probe

TRH Probe

FacilityPro® 3010 Processor

FacilityPro® SMART NG Server

OR

Pharmaceutical Net Pro

HMI Clients

TUBING   ELECTRICAL

Without measurement there is no control

Configuration FacilityPro 3010 System 1 Component List:

FacilityPro 3010 Processor

FacilityPro SMART NG Software, Client Software

Single Vacuum Pump with Manifold with external control cabinet

Airnet® II 510 Particle Sensor

Light Tower

IO Board (Analog Sensor connection as TRH , DP, etc)

NOTES: This system consists of a FacilityPro 3010 processor, SMART NG software, optional multiple Client stations for remote viewing or an HMI client for operators to interface with the software while in the cleanroom. There is the capability of up to 16 particle counters to be connected into the system. The vacuum pumps are a central vacuum either continuously on or can be controlled by the digital outputs from the processor to turn the pumps on or off. The pumps and vacuum of the system are not independently monitored for operation and rely upon the Airnet II for the flow control and any alarming for flow. The processor controls the light tower with digital outputs and has the optional Analog card installed allowing connection of the Differential Pressure sensor and Temperature and Humidity sensor.

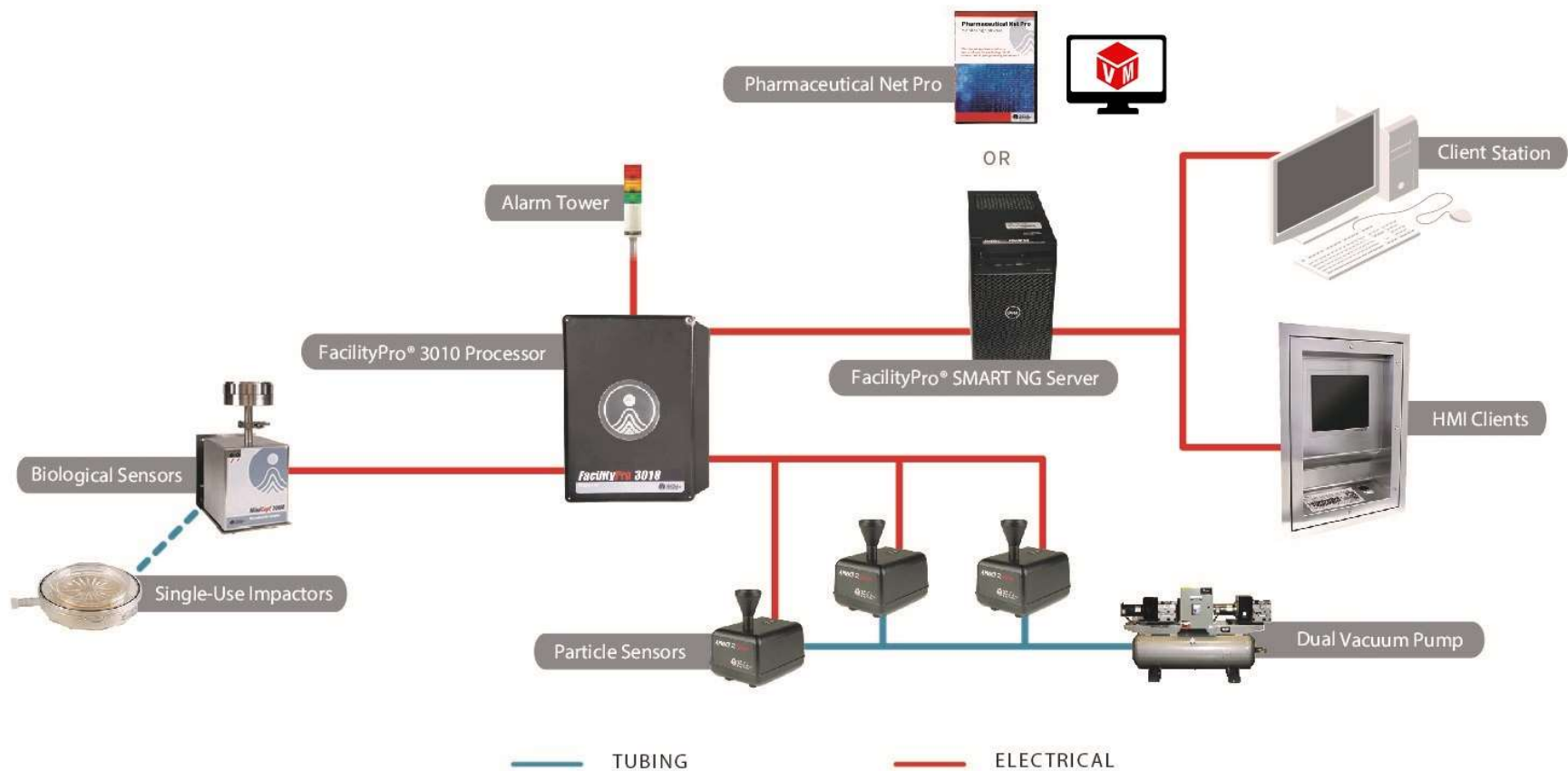| **Positive aspects of this system**:	**Items to consider:**
- Ideal for smaller system - Uses External Vacuum Source - Analog inputs capabilities - Digital output capabilities - Preinstalled software on a Server grade PC - Allows for Client access - Up to 16 Particle counters	- Does not control the Vacuum Pressure Value - Limited to 16 points of measurement - Digital Input and output limited to 8 DI and 16 DO when used with Analog inputs - Analog Inputs limited to 8 Analog inputs - Limited number of clients available (based by license size, with the possibility to expand the license in future installation)

FACILITYPRO® 3010 **SYSTEM 2**

Particle Monitoring Central Vacuum and Built-In Pump Microbial Samplers

Without measurement there is no control

Configuration FacilityPro 3010System 2 Component List:

FacilityPro 3010 Processor
FacilityPro SMART NG Software, Client Software
Dual Vacuum Pump
Airnet® II 510 Particle Sensor
MiniCapt® Remote with BioCapt® Stainless Steel
Light Tower

NOTES: This system consists of a FacilityPro 3010 processor, SMART NG software, optional multiple Client station for remote viewing or an HMI client for operators to interface with the software while in the cleanroom. There is the capability of up to 16 particle and/or microbial samplers. The particle counters are connected to a central vacuum system whereas the microbial sensors are utilizing the built-in pump sensors. The particle counters vacuum pumps are a central vacuum either continuously on or can be controlled by the digital outputs from the processor to turn the pumps on or off. The pumps and vacuum of the system are not independently monitored for operation and rely upon the Airnet II for the flow control and any alarming for flow. The processor controls the light tower with digital outputs.
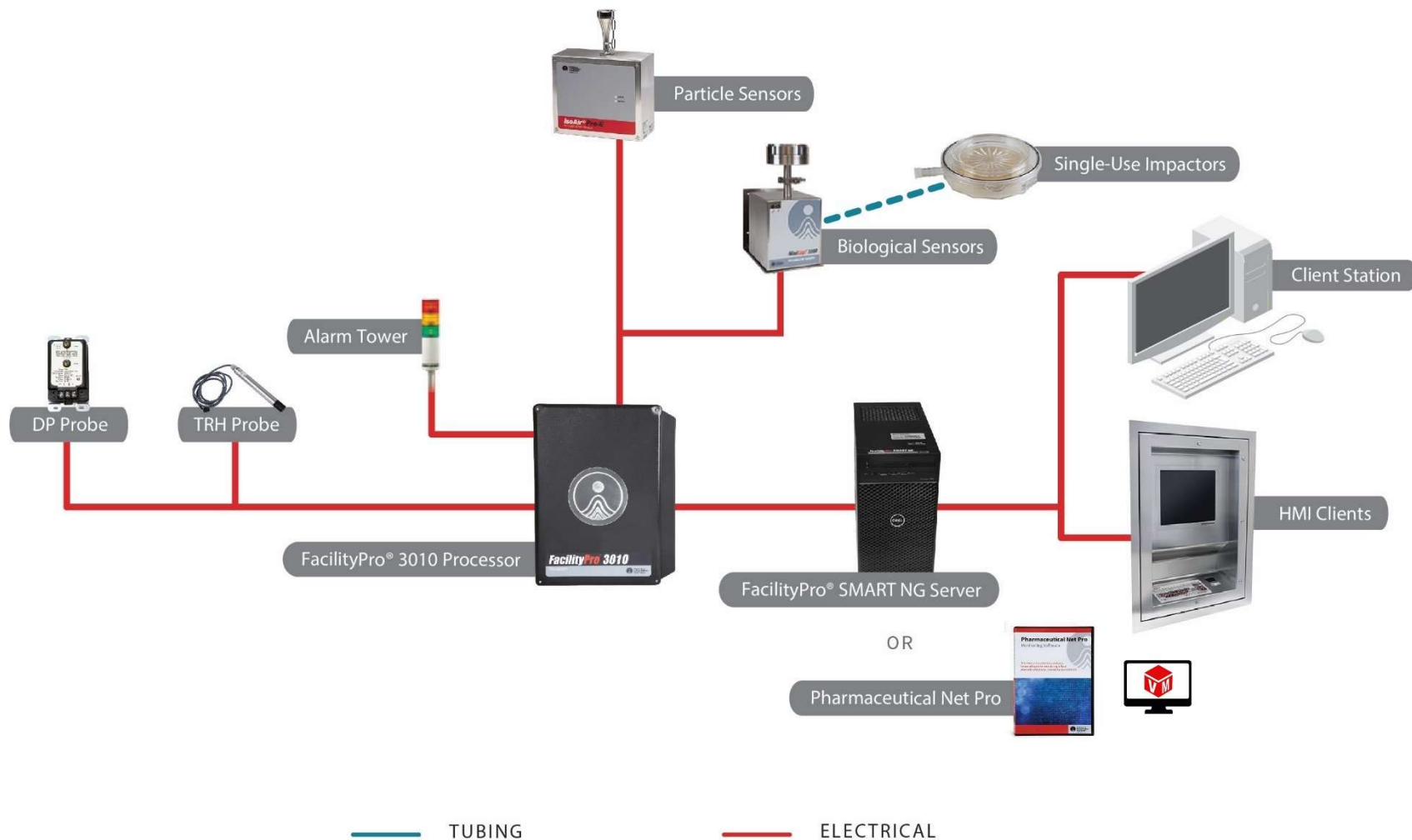
Positive aspects of this system:

- Ideal for smaller system
- Ideal where customer has particle counters already installed and would like to update the software and add microbial without changing the existing particle counter infrastructure
- Uses central vacuum for the particle counters or may be reusing an older systems infrastructure
- Digital output capabilities
- Preinstalled software on a Server grade PC (Or Pharmaceutical Net Pro)
- Allows for Client access
- Up to 16 particle or microbial sensors can be connected to this system

Items to consider:

- Does not control the the Vacuum Pressure Value
- Limited to 16 points of measurement
- Digital Input and output limited to 8 DI and 16 DO
- Limited number of clients available (based by license size, with the possibility to expand the license in future installation)

FACILITYPRO® 3010 **SYSTEM 3**

Particle Monitoring and Microbial Samplers both with Built-In Pumps

Particle Sensors

Single-Use Impactors

Biological Sensors

Client Station

Alarm Tower

DP Probe

TRH Probe

FacilityPro® 3010 Processor

FacilityPro® SMART NG Server

HMI Clients

OR

Pharmaceutical Net Pro

TUBING — ELECTRICAL

Without measurement there is no control

Configuration FacilityPro 3010 System 3 Component List:

FacilityPro 3010 Processor

FacilityPro SMART NG Software, Client Software

IsoAir® Pro-E Particle Sensor

MiniCapt® Remote with BioCapt® Single-Use or BCSS

Light Tower

IO Board (Analog Sensor connection as TRH , DP, etc)

NOTES: This system consists of a FacilityPro 3010 processor, SMART NG software, optional multiple Client station for remote viewing or an HMI client for operators to interface with the software while in the cleanroom. There is the capability of up to 16 particle and/or microbial samplers. The particle counters and microbial samplers both use built-in pumps. The microbial sampler in this case uses the BioCapt Single Use or the BioCapt Stainless-steel Sampling head. The processor controls the light tower with digital outputs and has the optional Analog card installed allowing connection of the Differential Pressure sensor and/or Temperature and Humidity sensors.

Positive aspects of this system:

- Ideal for smaller system
- Allows for installation without installing a central vacuum system
- The microbial sampler in this case can use the BioCapt single use or BCSS
- Digital output capabilities
- Analog input capabilities up to 8 sensors
- Preinstalled software on a Server grade PC or Pharmaceutical Net Pro
- Allows for multiple Client access
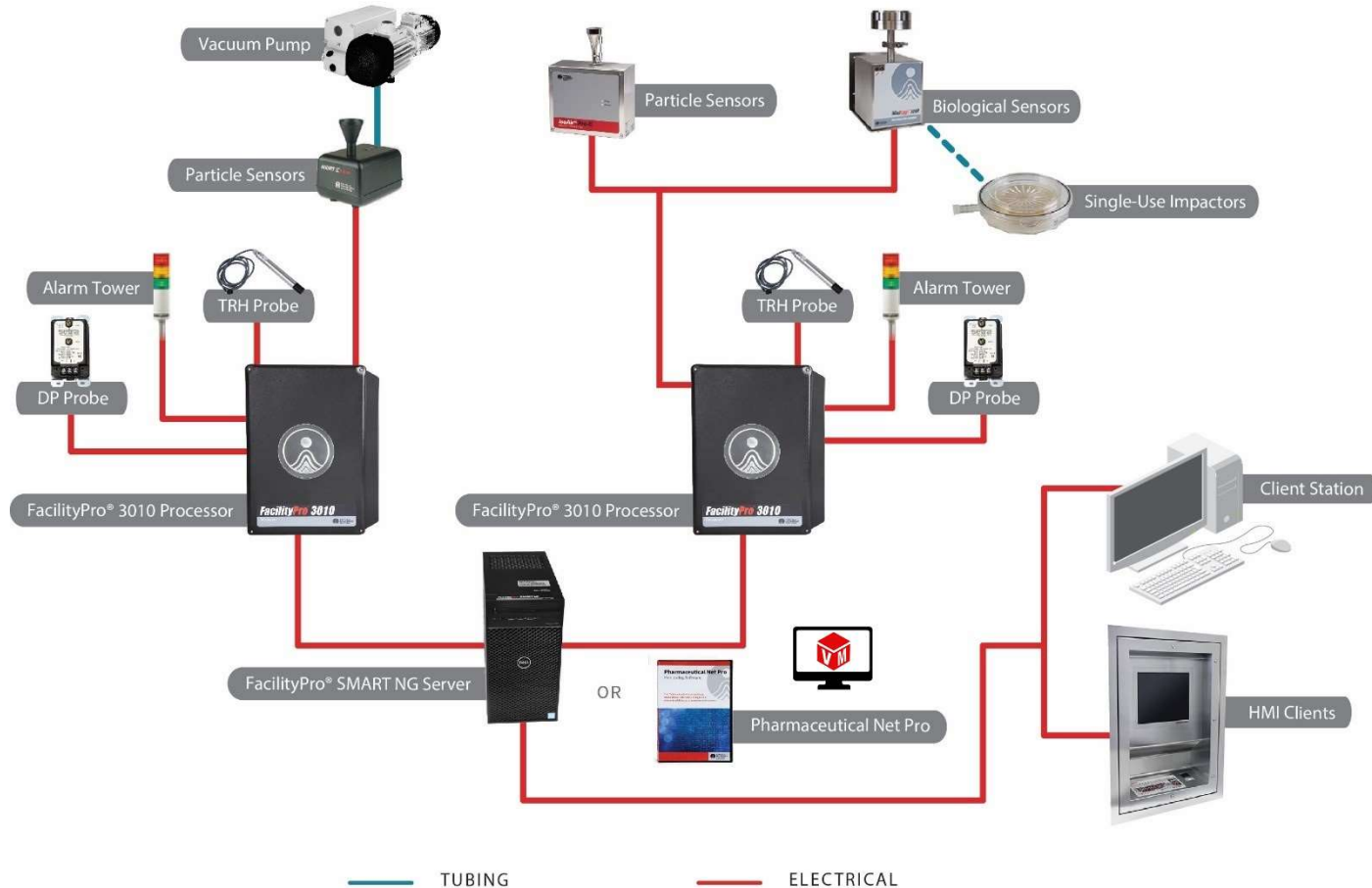- Up to 16 particle or microbial sensors can be connected to this system

Items to consider:

- Does not have Central redundant vacuum control
- Limited to 16 points of measurement
- Digital Input and output limited to 8 DI and 16 DO
- Analog inputs limited to 8 points.
- Limited number of clients available (based by license size, with the possibility to expand the license in future installation)

Without measurement there is no control

FACILITYPRO® 3010 SYSTEM 4

Particle Monitoring and Microbial Samplers with Built-In Pumps and Particle Monitoring Using a Vacuum System

TWO PROCESSORS

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Configuration FacilityPro 3010 System 4 Component List:

FacilityPro 3010 Processor (2)
FacilityPro Centalized SMART NG Software, Client Software
Single Vacuum Pump
Airnet® II 510 Particle Sensor
IsoAir® Pro-E Particle Sensor
MiniCapt® Remote with BioCapt® Single-Use or BioCapt Stainless Steel
Tower Light
IO Board (Analog Sensor connection as TRH , DP, etc)

NOTES: This system consists of two FacilityPro 3010 processor, SMART NG software, optional multiple Client station for remote viewing or an HMI client for operators to interface with the software while in the cleanroom. There is the capability of up to 16 particle and/or microbial samplers. The particle counters and microbial samplers both use built-in pumps. The microbial sampler in this case uses the BioCapt Single Use or the Stainless-steel Sampling head. The processor controls the light tower with digital outputs and has the optional Analog card installed allowing connection of the Differential Pressure sensor and Temperature and Humidity Sensor.
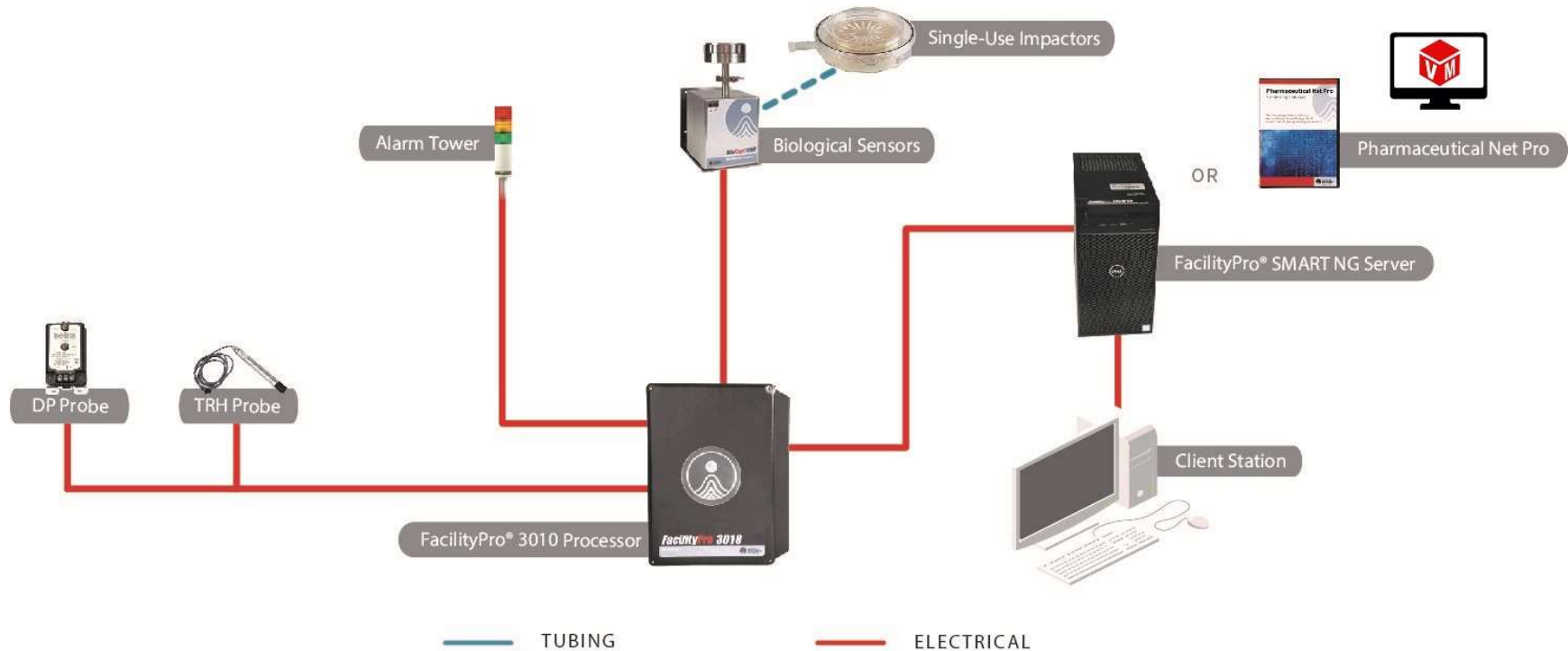
Positive aspects of this system:

- Ideal for medium sized system
- Ideal for two filling rooms where you want to keep it logically separated by the processor or the Grade A areas from other lower classified areas.
- The SMART NG Software can control two processors for reduced installation costs
- Allows for installation in locations that need or don't need a central vacuum system
- The microbial sampler in this case uses the BioCapt stainless steel mounted to the MiniCapt Remote via a mushroom tri-clamp mount or BioCapt Single Use
- Digital output capabilities 8 Digital inputs 16 Digital outputs
- Up to 8 Analog sensors can be connected to each processor for a total of 16 sensors
- Preinstalled software on a Server grade PC or Pharmaceutical Net Pro
- Up to 16 particle or microbial sensors can be connected to each processor for a total of 32 sensors

Items to consider:

- Does not have redundant vacuum control
- Limited to 16 points of measurement (for each processor)
- Digital Input and output limited to 8 DI and 16 DO (for each processor)
- Analog inputs limited to 8 points (for each processor)

FACILITYPRO® 3010 **SYSTEM 5**
MICROBIAL ONLY

Without measurement there is no control

Configuration FacilityPro 3010 System 5 Component List:

FacilityPro 3010 Processor
FacilityPro SMART NG Software, Client Software
MiniCapt® Remote (multiple) BioCapt® SS or SU impactors
Light Tower
IO Board (Analog Sensor connection as TRH , DP, etc)

NOTES: This system consists of a FacilityPro 3010 processor, SMART NG software, multiple Client station for remote viewing or an HMI client for operators to interface with the software while in the cleanroom. There is the capability of up to 16 microbial samplers connected to the software. The samplers use built in pump and are connected to stainless steel sampling heads or they could be connected to BioCapt Single Use as well. The processor controls the light tower with digital outputs and has the optional Analog card installed allowing connection of the Differential Pressure sensor and Temperature and Humidity sensor.
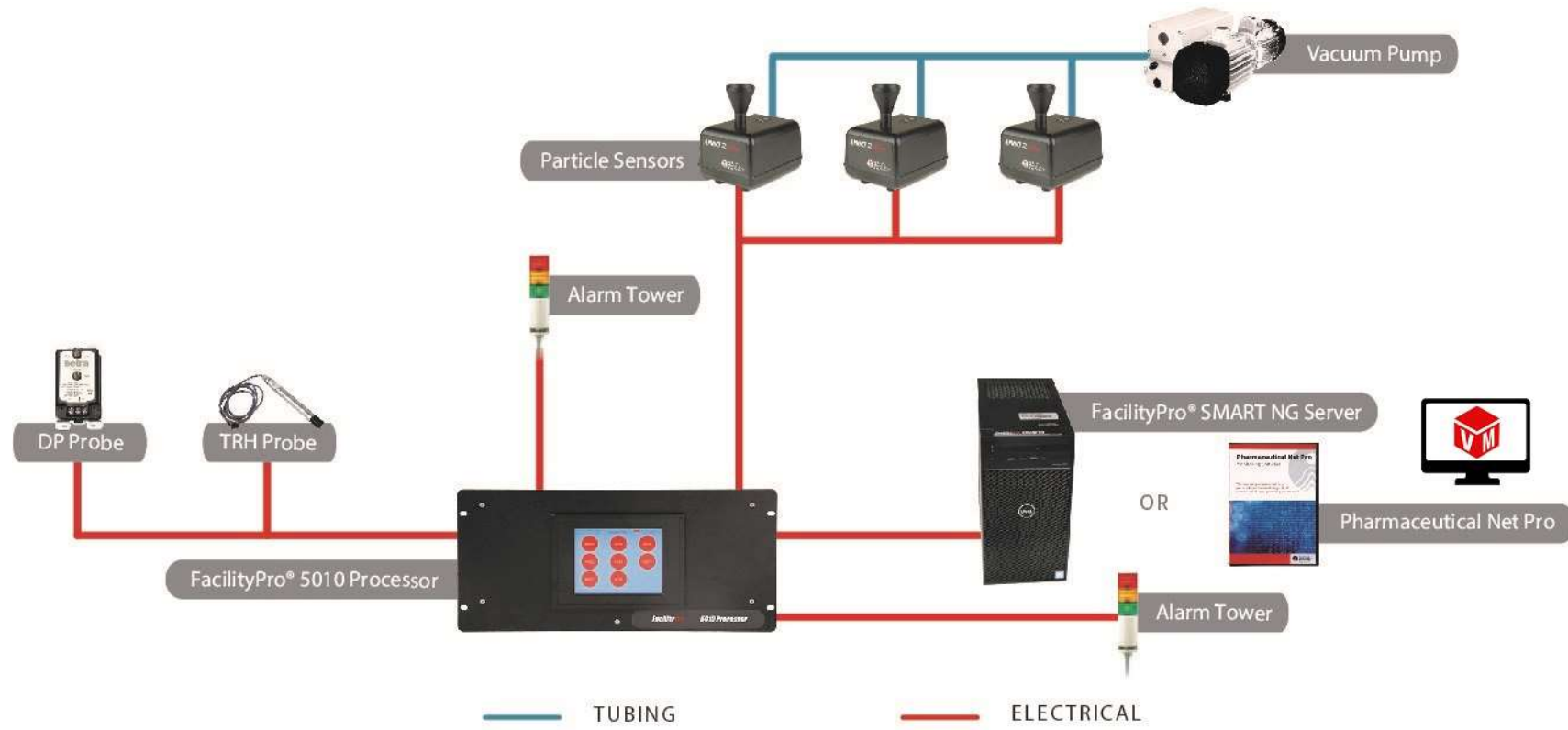
Positive aspects of this system:

- Ideal for smaller system
- Ideal for customers who already have a particle monitoring system and want to expand to microbial sampling with minimal infrastructure changes. This also allows future integration of the particle counters possibly into the SMART NG software, if desired.
- Analog inputs capabilities
- Digital output capabilities
- Preinstalled software on a Server grade PC or Pharmaceutical net Pro
- Allows for Client access
- Up to 16 Microbial Sampling points

Items to consider:

- Limited to 16 points of measurement
- Digital Input and output limited to 8 DI and 16 DO when used with Analog inputs
- Analog Inputs limited to 8 Analog inputs
- Limited number of clients available (based by license size, with the possibility to expand the license in future installation)

FACILITYPRO® 5010 **SYSTEM 1**

Particle Monitoring Central Vacuum

Without measurement there is no control

Configuration FacilityPro 5010 System 1 Component List:

FacilityPro 5010 Processor
FacilityPro SMART NG Software, Optional client station
Single Vacuum Pump
Virtual Module
Airnet® II 510 Particle Sensor
Multiple Light Towers
IO Board (Analog Sensor connection as TRH , DP, etc)

NOTES: This system consists of a FacilityPro 5010 processor, SMART NG software. There is the capability of up to 64 particle counters and up to 192 analog Sensors to be connected into the system. The vacuum pumps are a central vacuum either continuously on or can be controlled by the digital outputs from the processor to turn the pumps on or off. The pumps and vacuum of the system are not independently monitored for operation and rely upon the Airnet II for the flow control and any alarming for flow. The processor controls the light tower with digital outputs and has the optional Analog card installed allowing connection of the Differential Pressure sensor and Temperature and Humidity Probe.
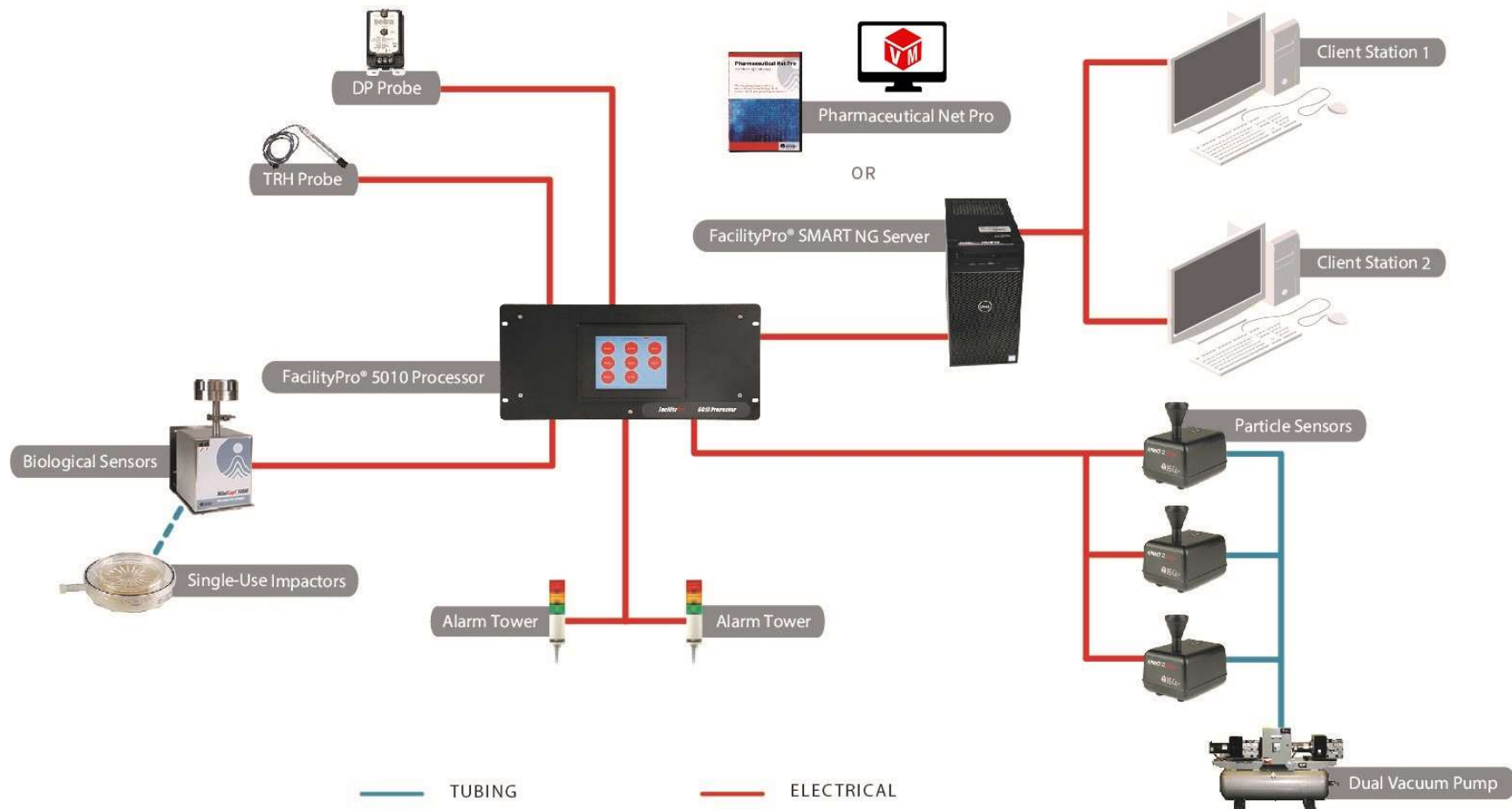
Positive aspects of this system:

- Ideal for larger systems
- Uses External Vacuum Source
- Analog inputs maximum capabilities up to 192 sensors
- Digital output maximum capabilities 128
- Digital input maximum capabilities up to 64
- Preinstalled software on a Server grade PC
- Up to 64 Particle counters on a single processor

Items to consider:

- Does not control the Vacuum for redundancy
- Need to turn on vacuum pumps either manually or with digital outputs controlling relays.
- Limited to 64 particle counters
- Limited to 192 analog sensors
- No clients on this configuration (with the possibility to expand the license in future installation)

Without measurement there is no control

FACILITYPRO® 5010 SYSTEM 2

Particle Monitoring with Central Vacuum and Microbial Sampling with Built-In Pump

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Configuration FacilityPro 5010 System 2 Component List:

Components
FacilityPro 5010 Processor
FacilityPro SMART NG Software, Optional client station (multiple)
Dual VAC Pump
Virtual Module
Airnet® II 510 Particle Sensor (multiple)
MiniCapt Remote, BioCapt® Stainless Steel or Single-Use
Multiple Light Towers
Optional Analog TRH and DP (multiple)

NOTES : This system consists of a FacilityPro 5010 processor, SMART NG software, optional multiple Client station for remote viewing. There has the capability of up to 64 particle or microbial samplers connected to the software. The vacuum pumps are a central vacuum either continuously on or can be controlled by the digital outputs from the processor to turn the pumps on or off. The pumps and vacuum of the system are not independently monitored for operation and rely upon the Airnet II for the flow control and any alarming for flow. The microbial samplers use a built-in pump and are not on the central vacuum system. The processor controls the light tower with digital outputs and has the optional Analog card installed allowing connection of the Differential Pressure sensor , Temperature and Humidity sensors. The microbial samplers are connected to stainless steel sampling heads, Optional they could be connected to BioCapt Single Use as well. The processor controls the light tower with digital outputs.

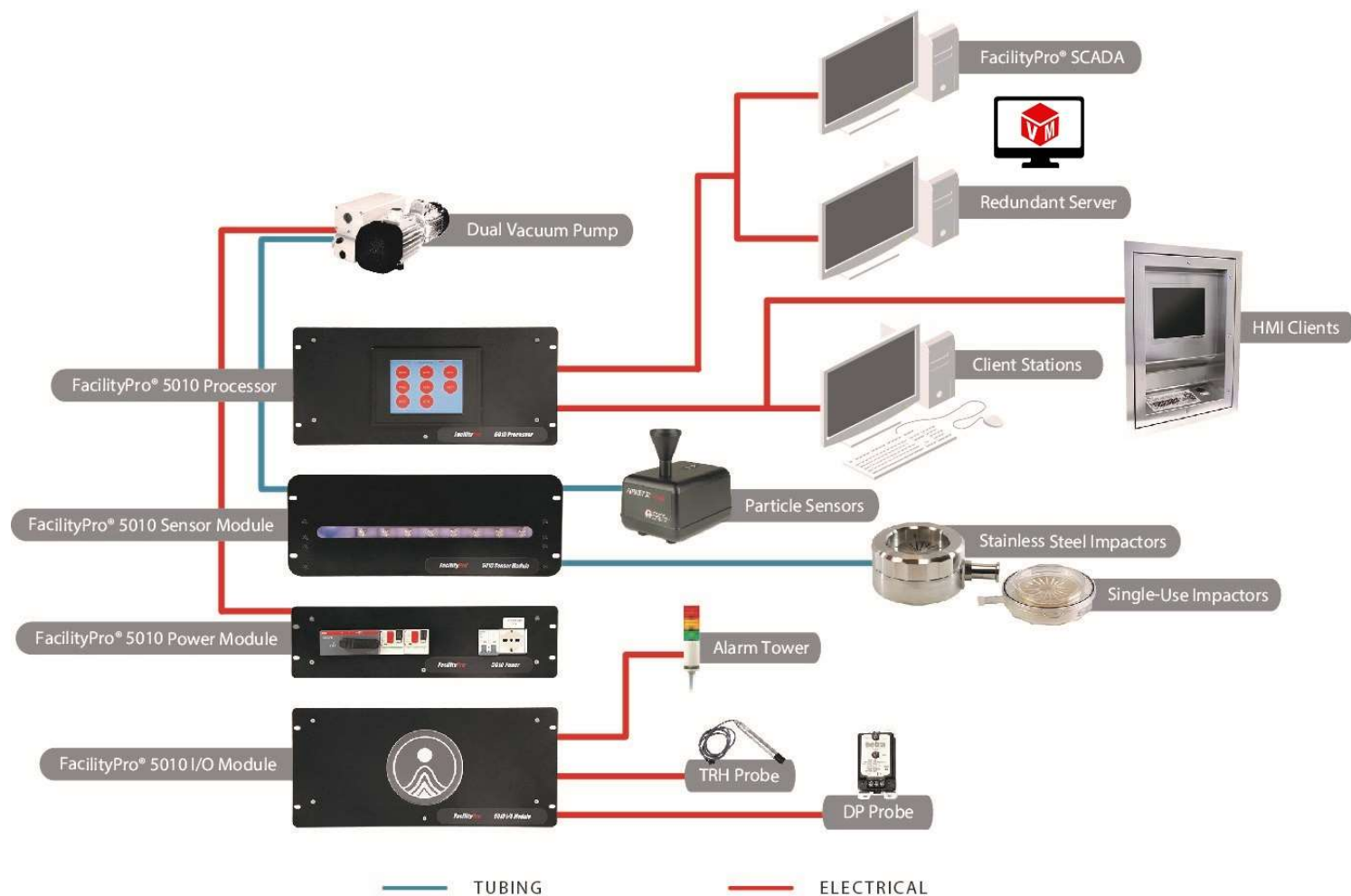**Positive aspects of this system:**

- Ideal for larger systems
- Ideal for customers who have a large number of sampling points to measure, multiple light towers and many analog inputs,
- Analog inputs maximum capabilities up to 192 sensors
- Digital output maximum capabilities 128
- Digital input maximum capabilities up to 64
- Preinstalled software on a Server grade PC or Pharmaceutical Net Pro
- Allows for multiple Client access
- Up to 64 particle or microbial sampling points
- Particle counters are connected with virtual module not the Sensor module.

Items to consider:

- Limited to 64 points of measurement with one processor
- Limited to 192 analog sensors
- Does not control the the Vacuum Pressure Value

Without measurement there is no control

FACILITYPRO® 5010 **SYSTEM 3**

Particle Monitoring with Central Vacuum and Microbial Sampling

Without measurement there is no control

Configuration FacilityPro 5010 System 3 Component List:

FacilityPro 5010 Processor
FacilityPro SCADA NG Software, multiple client station, dual servers (redundancy)
Dual Vacuum Pumps
FP 5010 Power Module , FP5010 Sensor Module,
Airnet® II 510 Particle Sensor (multiple)
BioCapt® SS or SU (multiple)
Light Tower
IO Board (Analog Sensor connection as TRH , DP, etc)

NOTES : This system consists of a FacilityPro 5010 processor, SCADA NG software with redundant servers for assured continuous operations, optional multiple Client station for remote viewing and HMI stations within the cleanroom. There is the capability of up to 64 Particle or Microbial Samplers connected to the software. The control of the vacuum for the particle counter and the biological sampling heads is done through the Sensor Module of the FacilityPro system. The vacuum pumps are set up with possible redundancy and hot swap capability using the FacilityPro Power module for vacuum pump management along with additional flow control and monitoring in addition to the Airnet II flow control. The microbial samplers are either stainless steel or BioCapt Single Use sampling heads. The processor controls multiple light towers with digital outputs and has the optional Analog card installed allowing connection of the Differential Pressure sensor and Temperature and Humidity sensors.
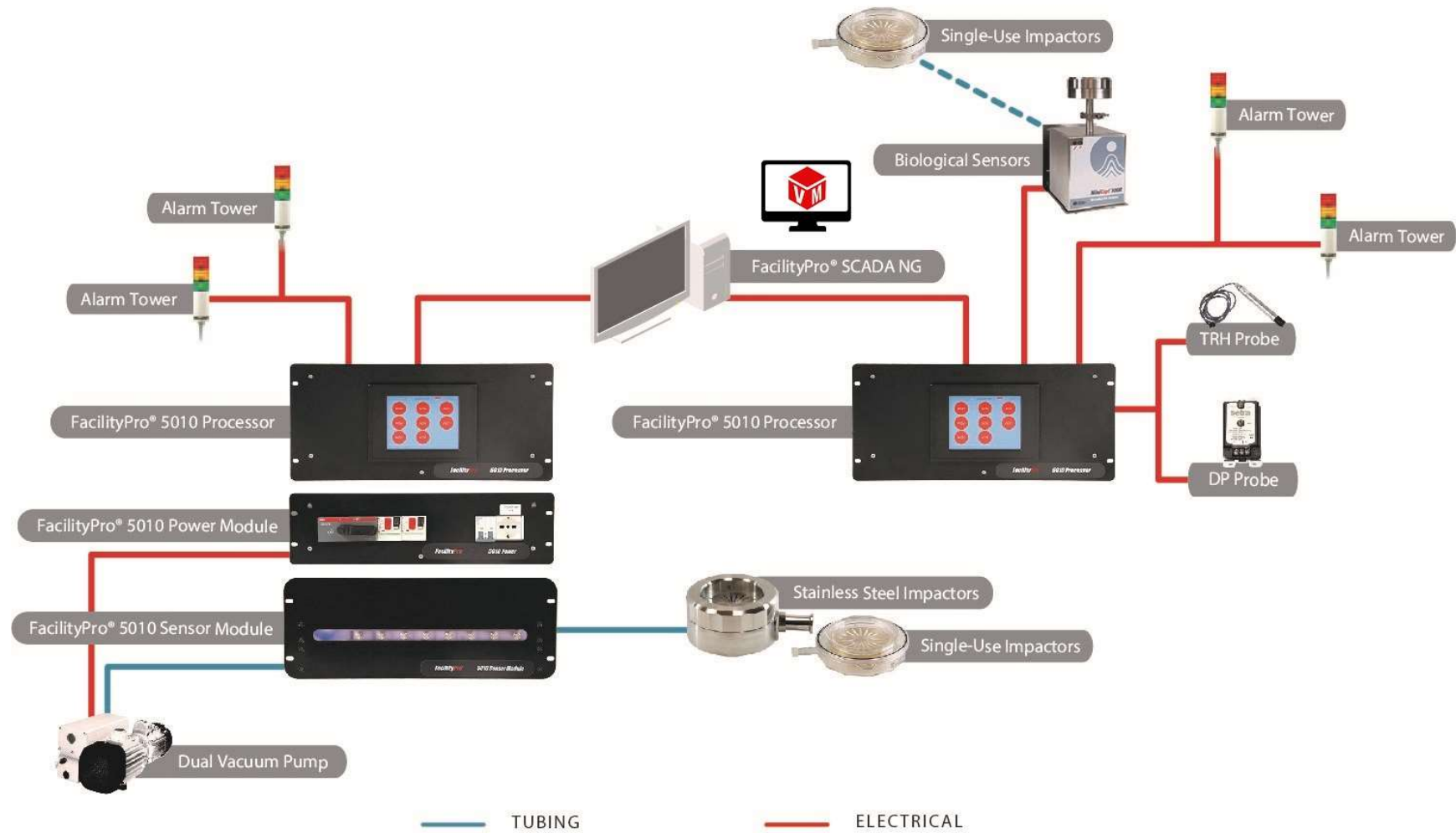
Positive aspects of this system:

- The premier system with full control capabilities for vacuum system
- Ideal for customers who have a large number of sampling points to measure, multiple light towers and many analog inputs,
- Analog inputs maximum capabilities up to 192 sensors
- Digital output maximum capabilities 128
- Digital input maximum capabilities up to 64
- Software is built on a SCADA based platform
- Allows for multiple Client access
- Up to 64 particle or microbial sampling points
- Particle counters are connected with the Sensor module
- Redundant software back up
- Redundant vacuum system and control

Items to consider:

- Limited to 64 points of measurement with one processor
- Redundancy requires additional SCADA/PharmNetPro software licenses
- Pump redundancy requires multiple pumps for assured back up of vacuum system

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FACILITYPRO® 5010 **SYSTEM 4**
MICROBIAL ONLY

Single-Use Impactors

Biological Sensors

Alarm Tower

Alarm Tower

Alarm Tower

FacilityPro® SCADA NG

Alarm Tower

Alarm Tower

TRH Probe

FacilityPro® 5010 Processor

FacilityPro® 5010 Processor

DP Probe

FacilityPro® 5010 Power Module

Stainless Steel Impactors

FacilityPro® 5010 Sensor Module

Single-Use Impactors

Dual Vacuum Pump

TUBING   ELECTRICAL

Without measurement there is no control

Configuration FacilityPro 5010 System 4 Component List:

FacilityPro 5010 Processor (2)

FacilityPro SCADA NG Software, Optional client stations

Dual Vacuum Pumps

FP 5010 Power Module , FP5010 Sensor Module,

BioCapt® SS or SU (multiple)

MiniCapt Remote, BioCapt® Stainless Steel or Single-Use (multiple)

Light Towers

IO Board (Analog Sensor connection as TRH , DP, etc)

NOTES : This system consists of two FacilityPro 5010 processors, SCADA NG software. There is the capability of up to 64 locations per processor to be connected into the system. The vacuum pumps are set up with possible redundancy and hot swap capability using the FacilityPro Power module for vacuum pump management along with additional flow control and monitoring by sensor module. The other Processor uses built-in pump units vs the centralized vacuum system. The processor controls the light tower with digital outputs and has the optional Analog card installed allowing connection of the Differential Pressure sensor and Temperature and Humidity sensors.
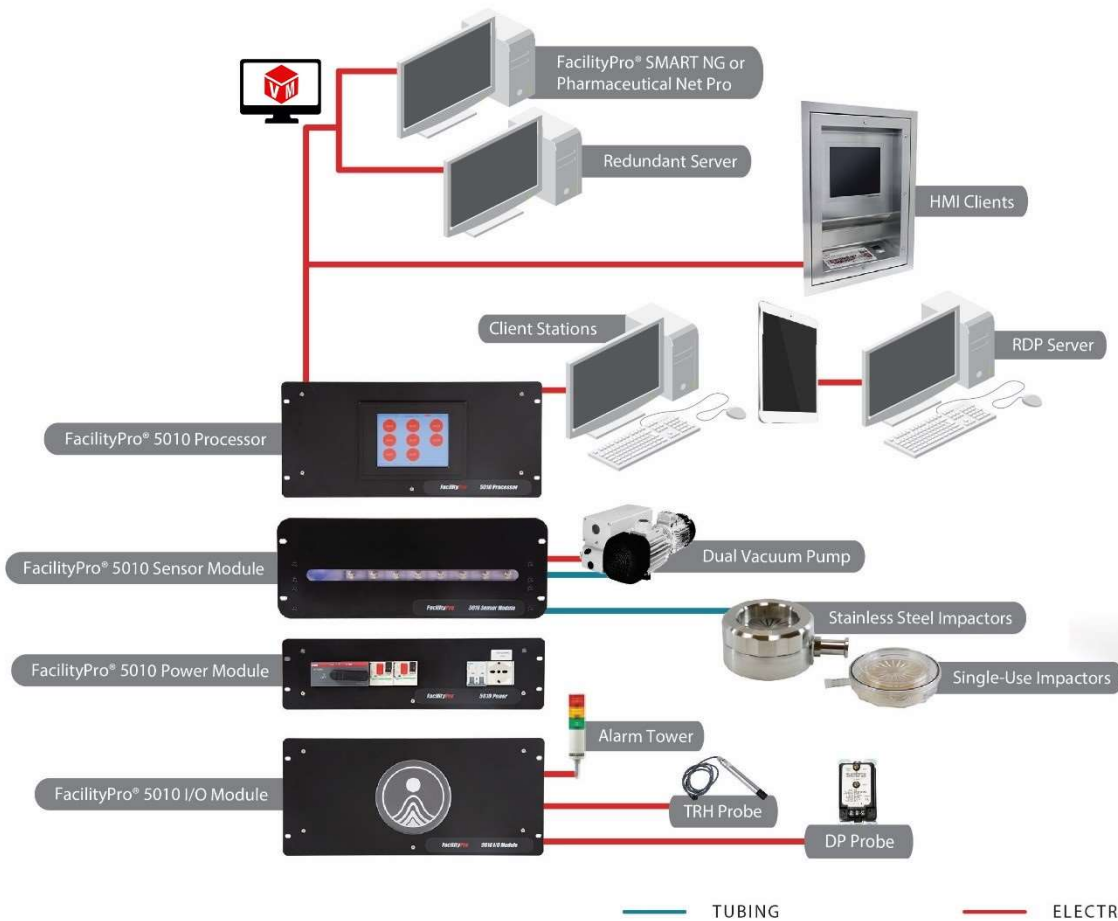
Positive aspects of this system:

- Ideal for larger systems
- Vacuum monitored and controlled by the sensor module for part of the system, the other uses built-in pump units
- Analog inputs maximum capabilities up to 192 sensors
- Digital output maximum capabilities 128
- Digital input maximum capabilities up to 64
- SCADA/PharmNetPro control software
- Operation of two processors from a single SCADA/PharmNetPro software
- Up to 64 Particle counters on a single processor

Items to consider:

- Limited to 64 points of measurement per processor
- No clients on this configuration
- Microbial only, easy to add particle sensors at a later time

Without measurement there is no control

FACILITYPRO® 5010 **SYSTEM 5**
Laminar Flow Cart + WiFi Sensors

FacilityPro® SMART NG or Pharmaceutical Net Pro
Redundant Server
HMI Clients
Client Stations
RDP Server
FacilityPro® 5010 Processor
FacilityPro® 5010 Sensor Module
Dual Vacuum Pump
Stainless Steel Impactors
FacilityPro® 5010 Power Module
Single-Use Impactors
Alarm Tower
FacilityPro® 5010 I/O Module
TRH Probe
DP Probe

TUBING   ELECTRICAL

Biological Sensors (Built-in Pump)
Particle Sensors (Built-in Pump)

Without measurement there is no control

Configuration FacilityPro 5010 System 5 Component List:

FacilityPro 5010 Processor
FacilityPro SMART NG Software,Redundancy Server , Optional client station, Thin Client Station (RDP)
FP 5010 Power Module , FP5010 Sensor Module,
Dual Vacuum Pumps
IsoAir® Pro-E Particle Sensor (multiple) and MiniCapt Remote Sampler (multiple)
BioCapt® SS or SU (multiple)
Light Tower
IO Board (Analog Sensor connection as TRH , DP, etc)

NOTES: This system consists of a FacilityPro 5010 processor, SMART NG software with redundant servers for assured continuous operations, optional multiple Client station for remote viewing and HMI stations within the cleanroom. There is the capability of up to 64 Particle or Microbial Samplers connected to the software. The control of the vacuum for the particle counter and the biological sampling heads is done through the Sensor Module of the FacilityPro system. The vacuum pumps are set up with possible redundancy and hot swap capability using the FacilityPro Power module for vacuum pump management. The system includes WiFi-enabled sensors such as the IsoAir Pro-E for particle sampling, and the MiniCapt Remote air sampler for biological monitoring (using an Hub Switch). The microbial samplers are either stainless steel or BioCapt Single Use sampling heads. The processor controls multiple light towers with digital outputs and has the optional Analog card installed allowing connection of the Differential Pressure sensor and Temperature and Humidity sensors.
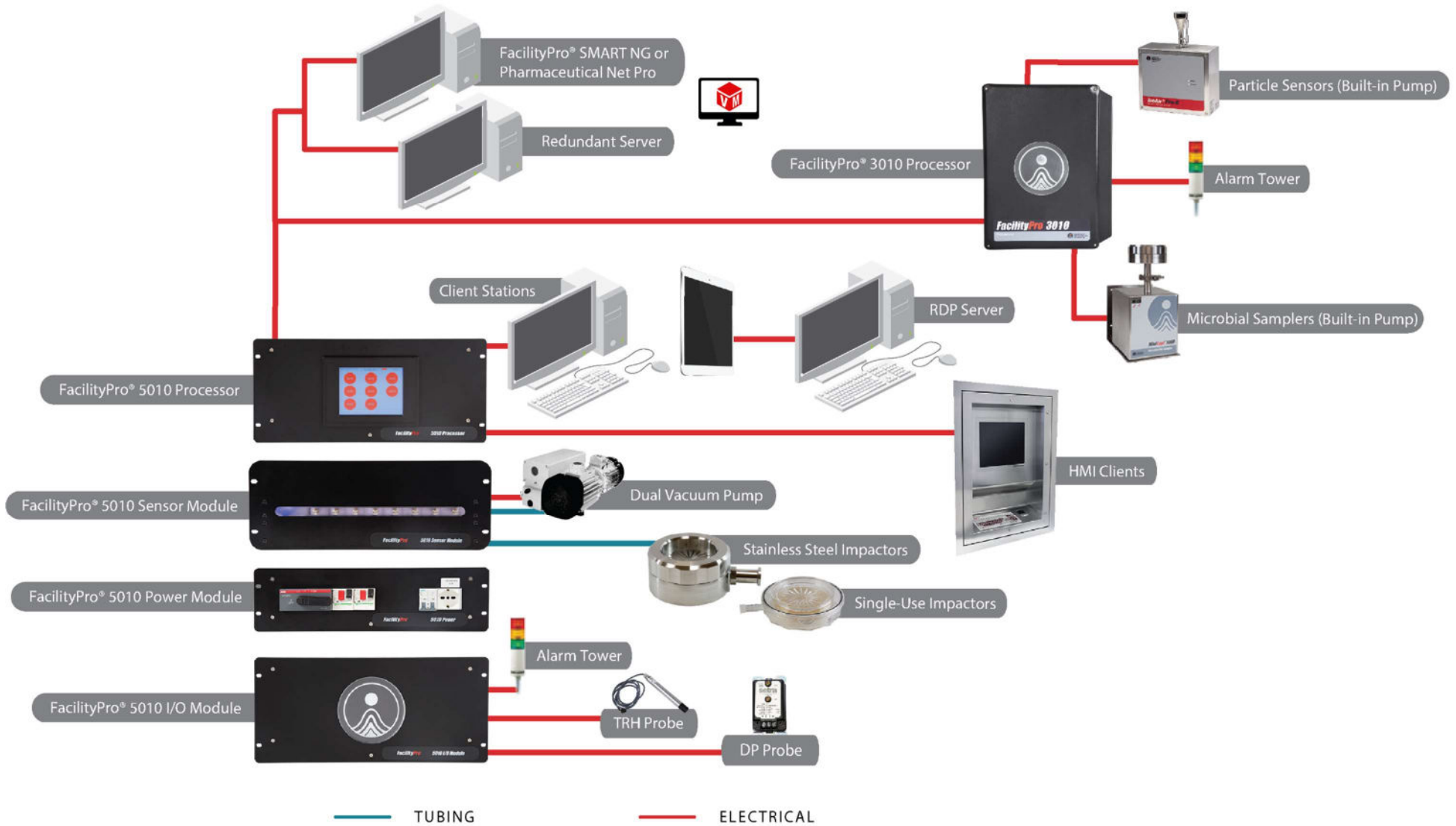
Positive aspects of this system:

- The premier system with full control capabilities for vacuum system
- Ideal for customers who have a large number of sampling points to measure, multiple light towers and many analog inputs,
- Analog inputs capabilities up to 192 sensors
- Digital output capabilities 128
- Allows for Client access in dedicated PC (HMI) or using RDP multiple connection
- Up to 64 particle or microbial sampling points
- Particle counters are connected with the Sensor module
- Redundant software back up
- Redundant vacuum system and control

Items to consider:

- Limited to 64 points of measurement with one processor
- Redundancy requires additional SCADA/PharmNetPro software licenses
- Pump redundancy requires multiple pumps for assured back up of vacuum system

Without measurement there is no control

FACILITYPRO® 5010 / 3010 **SYSTEM 1**

FacilityPro® SMART NG or Pharmaceutical Net Pro

Redundant Server

Particle Sensors (Built-in Pump)

FacilityPro® 3010 Processor

Alarm Tower

Client Stations

RDP Server

Microbial Samplers (Built-in Pump)

FacilityPro® 5010 Processor

HMI Clients

FacilityPro® 5010 Sensor Module

Dual Vacuum Pump

Stainless Steel Impactors

FacilityPro® 5010 Power Module

Single-Use Impactors

Alarm Tower

FacilityPro® 5010 I/O Module

TRH Probe

DP Probe

TUBING   ELECTRICAL

Without measurement there is no control

Configuration FacilityPro 5010 / 3010 System 1 Component List:

FacilityPro 5010 Processor and FacilityPro 3010 Processor
FacilityPro SMART NG Software, Optional client station, dual servers (redundancy)
Dual Vacuum Pumps
FP 5010 Power Module , FP5010 Sensor Module,
IsoAir® Pro-E Particle Sensor (multiple) and MiniCapt Remote Sampler (multiple)
BioCapt® SS or SU (multiple)
Single Light Tower
IO Board (Analog Sensor connection as TRH , DP, etc)

NOTES : This system consists of a FacilityPro 5010 processor, SMART NG software with redundant servers and processors for assured continuous operations, optional multiple Client station for remote viewing and HMI stations within the cleanroom.

Processor FP 5010 :There is the capability of up to 64 Particle or Microbial Samplers connected to the software. The control of the vacuum for the particle counter and the biological sampling heads is done through the Sensor Module of the FacilityPro system. The vacuum pumps are set up with possible redundancy and hot swap capability using the FacilityPro Power module for vacuum pump management along with additional flow control and monitoring in addition to the Airnet II flow control.The microbial samplers are either stainless steel or BioCapt Single Use sampling heads. The processor controls multiple light towers with digital outputs and has the optional Analog card installed allowing connection of the Differential Pressure sensor and Temperature and Humidity sensors.

Processor FP 3010: There is the capability of up to 16 Particlecounters / microbial samplers connected to the software. The particle counters and microbial samplers both use built-in pumps The Biological sensor are connected to stainless steel sampling heads or they could be connected to BioCapt Single Use as well. The processor controls the light tower with digital outputs.
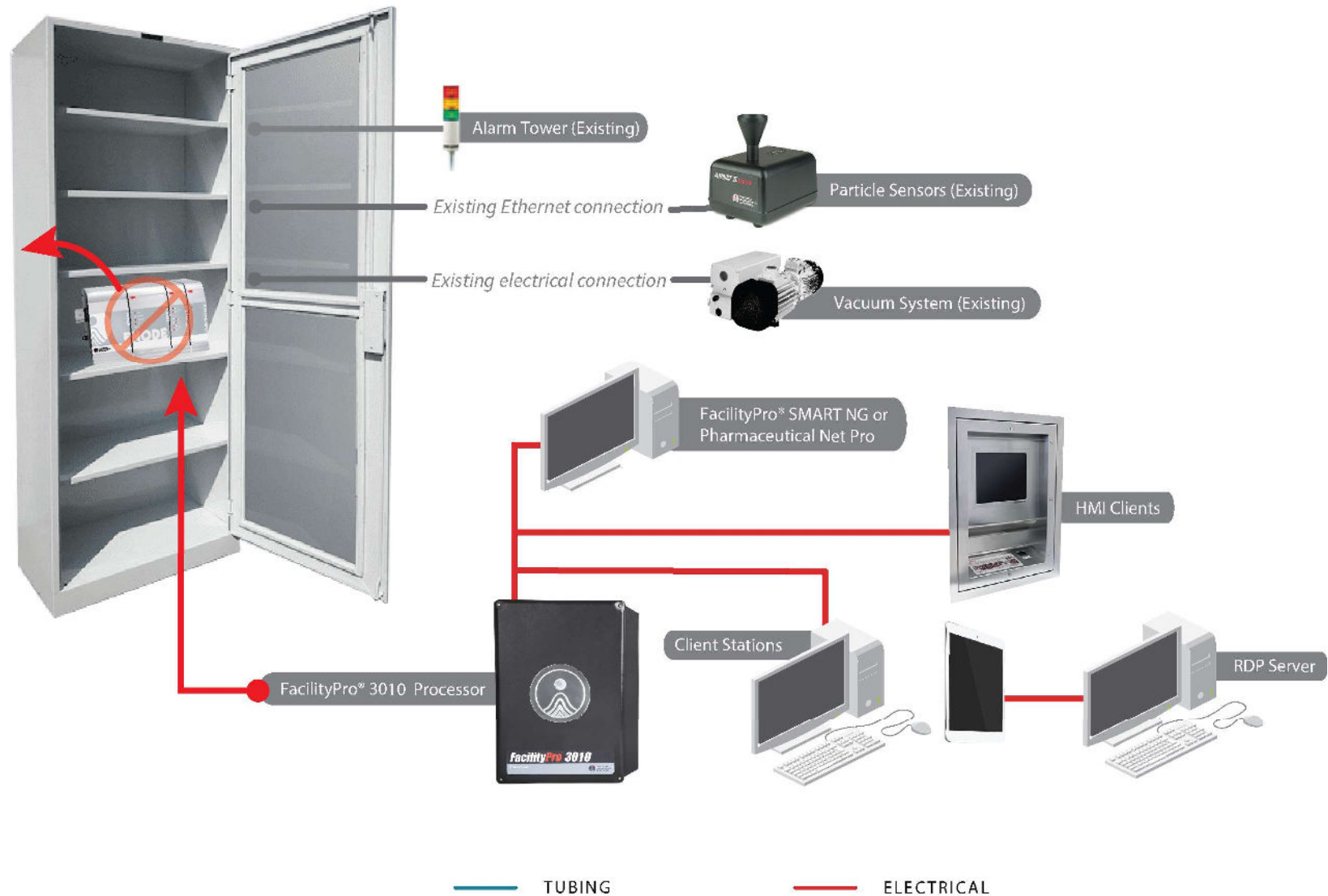
Positive aspects of this system:

- Ideal for customers who have a large number of sampling points to measure, multiple light towers and many analog inputs,
- The premier system with full control capabilities for vacuum system
- FP5010: Up to : 64 particle / microbial sampling points, 192 Analog Sensors , 128 Digital Output , 64 Digital Input
- FP3010: Up to : 16 particle / microbial sampling points, 16 Digital Output , 8 Digital Input (optional additional DI/DO board or analogical Board)
- Allows for multiple Client access
- Redundant software back up
- Redundant vacuum system and control

Items to consider:

- Redundancy requires additional SCADA/PharmNetPro software licenses
- Pump redundancy requires multiple pumps for assured back up of vacuum system
- Limited number of clients available (based by license size, with the possibility to expand the license in future installation)

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Legacy System Upgrade System 1 (Small)

Alarm Tower (Existing)

Particle Sensors (Existing)

Existing Ethernet connection

Existing electrical connection

Vacuum System (Existing)

FacilityPro® SMART NG or Pharmaceutical Net Pro

HMI Clients

Client Stations

FacilityPro® 3010 Processor

RDP Server

—— TUBING   —— ELECTRICAL

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Configuration Legacy Upgrade System 1 Component List:

FacilityPro 3010 Processor
FacilityPro SMART NG Software, Multiple client station ,Thin (RDP) and Thick Client Station
Upgrade Form an Existing Enode System
Existing Airnet® II 510 Particle Sensor (multiple)
Existing Vacuum Source
Existing Light Tower

NOTES : This system consists of a FacilityPro 3010 processor, SMART NG software with multiple Client station for remote viewing and HMI stations within the cleanroom (Thin – Thick Client) for assured continuous operations, optional. There is the capability of up to 16 Particle or Microbial Samplers connected to the software. The pumps and vacuum of the system is managed by the Processor (through digitL Output) connected to the existing cabinet monitored for operation and rely upon the Airnet II for the flow control and any alarming for flow. The processor controls the light tower with digital outputs.
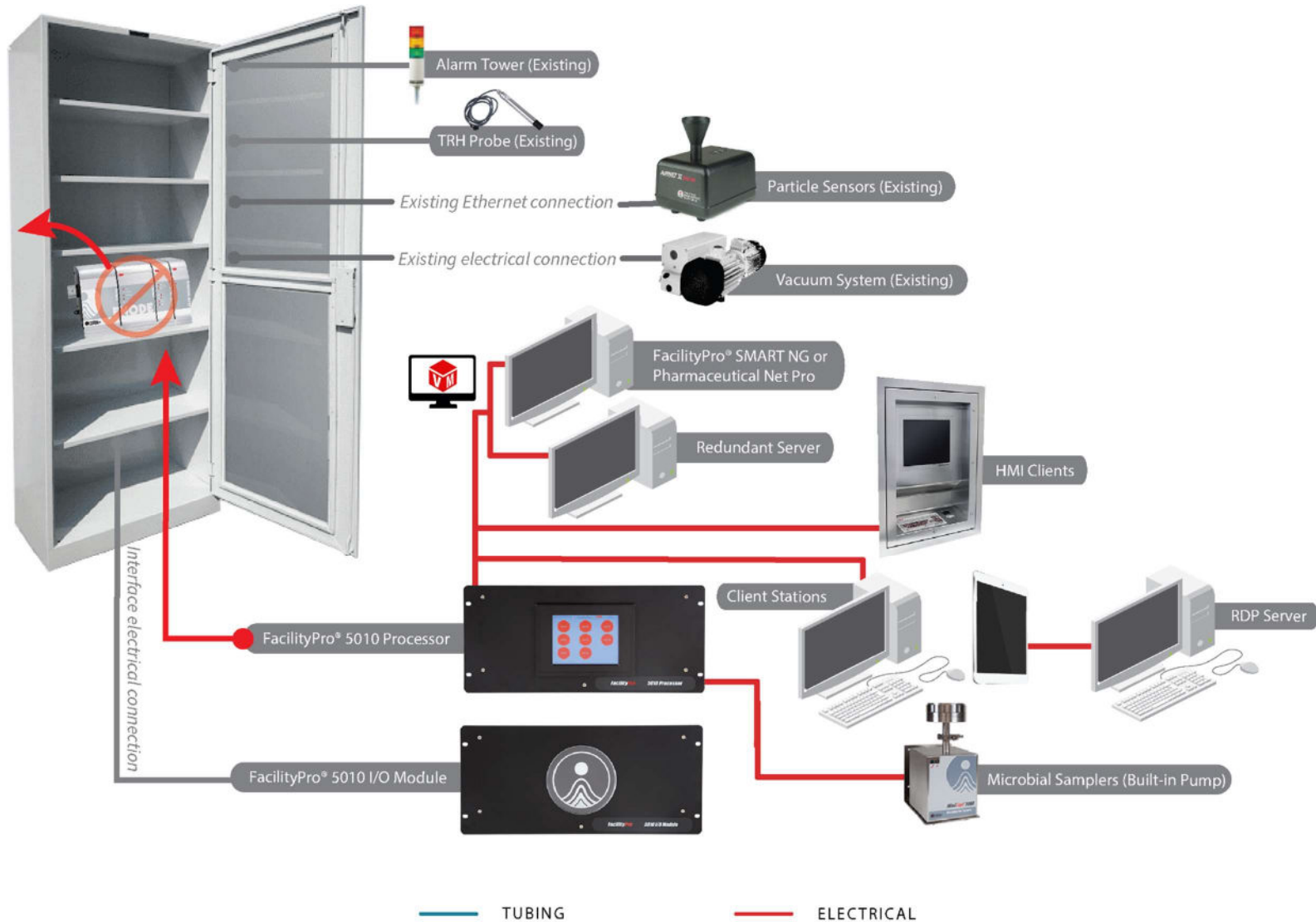
Positive aspects of this system:

- Ideal for smaller system
- Ideal where customer has Pharmaceuticalnet SW with Enode cabinet already installed and would like to update the software without changing the existing particle counter infrastructure
- Preinstalled software on a Server grade PC or Pharmaceutical Net Pro
- Uses Existing HW (Central Vacuum, Particle Counters, Tower Light , cabinet Connection)
- Digital output capabilities
- Allows for Client access in dedicated PC (HMI) or using RDP multiple connection
- Up to 16 Particle counters

Items to consider:

- Does not have redundant vacuum control
- Limited to 16 points of measurement
- Digital Input and output limited to 16 DI and 32 DO
- Limited number of clients available (based by license size, with the possibility to expand the license in future installation)

Without measurement there is no control

Legacy System Upgrade System 2 (Large)

Alarm Tower (Existing)

TRH Probe (Existing)

Existing Ethernet connection

Particle Sensors (Existing)

Existing electrical connection

Vacuum System (Existing)

FacilityPro® SMART NG or Pharmaceutical Net Pro

Redundant Server

HMI Clients

Client Stations

RDP Server

FacilityPro® 5010 Processor

FacilityPro® 5010 I/O Module

Interface electrical connection

Microbial Samplers (Built-in Pump)

TUBING   ELECTRICAL

Without measurement there is no control

Configuration Legacy Upgrade System 2 Component List:

FacilityPro 5010 Processor

FacilityPro SMART NG Software,Redundancy Server , Optional client station, Thin Client Station (RDP)

Upgrade Form an Existing Enode System

Existing Airnet® II 510 Particle Sensor (multiple)

Existing Vacuum Source

Existing Light Tower

Existing Analogical Sensors

MiniCapt Remote, BioCapt® Stainless Steel or Single-Use (multiple)

NOTES: This system consists of a FacilityPro 5010 processor, SMART NG software with redundant servers for assured continuous operations, with multiple Client station for remote viewing and HMI stations within the cleanroom (Thin – Thick Client). There is the capability of up to 64 Particle or Microbial Samplers connected to the software. The pumps and vacuum of the system is managed by the Processor (through digital Output) connected to the existing cabinet, monitored for operation and rely upon the Airnet II for the flow control and any alarming for flow.The microbial samplers use a built-in pump and are not on the central vacuum system . The processor controls the existing light tower with digital outputs and has the optional Analog card installed allowing connection of the existing Differential Pressure sensor and Temperature and Humidity sensors.

Positive aspects of this system:

- Ideal for customers who have an existing large number of sampling points to measure, multiple light towers and many existing analog inputs
- Redundant software back up
- Allows for Client access in dedicated PC (HMI) or using RDP multiple connection
- Up to 64 particle or microbial sampling points
- Analog inputs maximum capabilities up to 192 sensors
- Digital output maximum capabilities 128
- Digital input maximum capabilities up to 64

Items to consider:

- Limited to 64 points of measurement with one processor
- Redundancy requires additional SCADA/PharmNetPro software licenses
- Limited number of clients available (based by license size, with the possibility to expand the license in future installation)

Project Summary Details

Facility Summary	
Total # areas to be monitored	
Total # particle counters required	
Total # microbial samplers required	
Total # light towers required	
Total # HMIs	
Total # Analog Inputs	
Total # Servers	
Total # Other Clients	

Services Summary		
Design Docs	□PMS/Dist	□Customer
Validation Docs	□PMS/Dist	□Customer
Installation	□PMS/Dist	□Customer
Commissioning	□PMS/Dist	□Customer
FAT required?	□Yes	□No
SAT	□PMS/Dist	□Customer
Validation	□PMS/Dist	□Customer
Training	□Operation	□Maintenance

Additional Services		
Risk Assessment	□Yes	□No
User Requirements Specification	□Yes	□No
Standard Operating Procedures	□Yes	□No
FacilityPro Custom Screens	□Yes	□No
BMS/LIMS Integration Support	□Yes	□No
PLC Required (consult PMS Factory)	□Yes	□No
FacilityPro Process Mapping Service	□Yes	□No
FacilityPro Performance Qualification Documentation Creation and Execution Assistance	□Yes	□No
FacilityPro SOP Creation (1 SOP)	□Yes	□No

Estimated Project Schedule

Quote/Bid Due		Order Awarded	
Kickoff Meeting		Installation	
Commissioning		FAT	
SAT		Validation	
Training		System Handoff	

Installation Details

System cabinet location	
System cabinet max distance from sensors	
Vacuum pumps location	
Vacuum Pumps #	
Vacuum pumps distance from cabinet	
Vacuum max distance from sensors	
Vacuum Pumps Location	

Additional Notes

Room/Area Details (Complete one for each room or area)

Name			
Size		Grade/ISO Class	
Gowning required during project?		New Construction?	

Room/Area Equipment

Equipment	#	Vendor	Existing ISPs?	Replacing Existing Sensors?
Isolators				
Bio Safety Cabinets				
Fill Lines				
HEPA-filtered Carts				

Sample Points

Particle Counters		Microbial Sampling	
Total # Points		Fixed – side hose barb	
VHP Compatible #		Fixed – side tri-clamp	
SS Enclosures #		Fixed – bottom tri-clamp	
Type	□Built-in Pump □Central Vacuum	Portable Units	
Portable #		Remote/Isolator kits	
Download Ports #		Real-time Microbial	

Environmental Sensors

Existing/Provided by Customer		New/Provided by PMS or Distributor	
Temperature		Temperature	
T/RH		T/RH	
DAP		DAP	
Air Flow Velocity		Air Flow Velocity	

Room/Area Name

Room/Area Drawing

Room/Area Additional Notes

Customer Details

Name					
Address					
Address					
City		State		Post Code	
Contact Name					
Phone			Fax		
E-Mail					
Project Name					