Modernisation solutions for Rockwell Automation users

A phased migration strategy to optimise the update of your aging equipment

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Where Automation Connects.™

Agenda

❖ Introduction to ProSoft Technology
  - ◆ Other available webinars
❖ Upgrade or modernize - What does it mean to you?
❖ The problem and how to solve it
❖ Phased migration approach
  - ◆ Examples
❖ Other solutions
  - ◆ Legacy serial protocols
  - ◆ Competitive PLC
  - ◆ DCS migration
❖ Summary

ProSoft Technology At A Glance

Purpose-built mission-critical networking systems that provide the highest confidence of reliability, availability and security

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Key Vertical Markets

- Discrete
- Process
- Energy

Comprehensive Industrial Infrastructure

❖ Plug-In Solutions for Partners

❖ Industrial Gateway Solutions

❖ Industrial Wireless Solutions
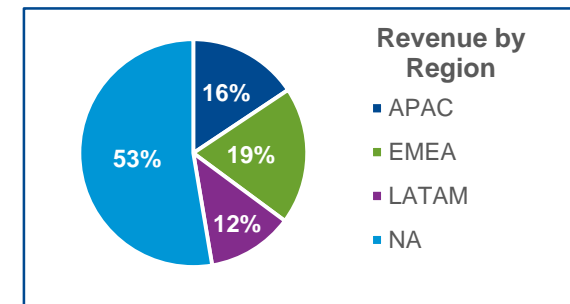
Representative Customers

CATERPILLAR® Ford Vestas PDVSA

First Solar Rockwell Automation Shell GM Schlumberger

GE EMERSON

Schneider Electric ABB

Disney Anheuser-Busch

Revenue by Region

- APAC — 16%
- EMEA — 19%
- LATAM — 12%
- NA — 53%

ProSoft Technology – Who We Are

Application Experts
- ProSoft really knows industrial communications applications
- COMM - Connect, Optimize, Modernize, and Migrate

Customer Oriented
- We are relentless in solving our customers' challenges
- Industrial customers *trust* ProSoft

Great Partner
- Partnerships are integral to our business
- We make our partners more successful

**ProSoft Technology, with our partners,
optimize industrial productivity
with innovative communication solutions**

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Available presentations

Automated Material Handling

Modernization

Remote Connectivity

Integrated Flow Computing

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Upgrade or modernize

❖ Upgrade: Focus on a specific machine or line to address outdated technology. Usually a smaller investment that provides a one-for-one replacement of aging products for a modern versions.

❖ Modernization: Applying contemporary technology to address obsolescence, improve productivity and setting the foundation to meet both current and future business objectives. Typically a larger investment with a higher return over time.

Problem

❖ Huge install base of Allen Bradley Remote I/O Systems

❖ Most of the products pictured above are either Silver Series or Discontinued
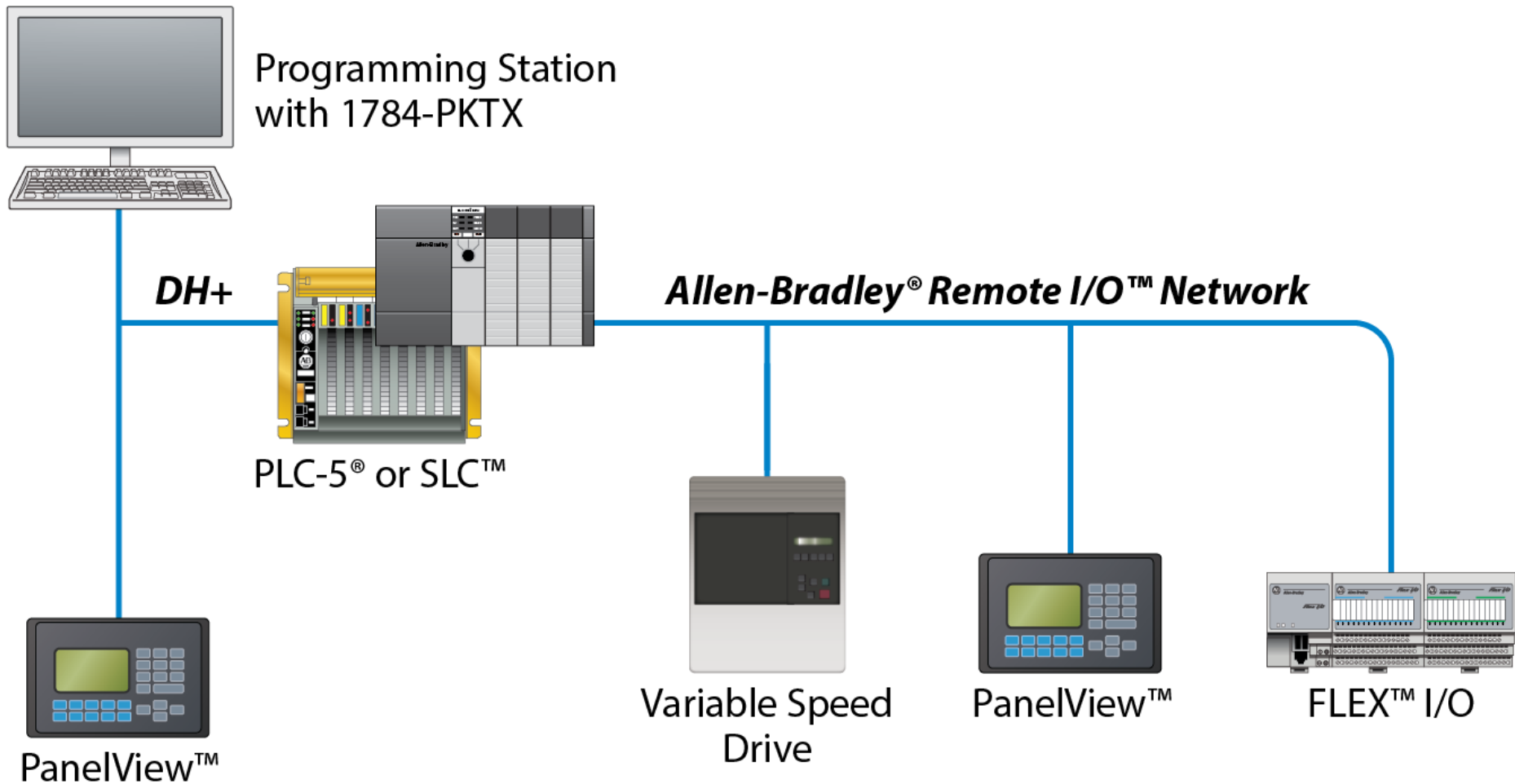
How to solve the problem?

Traditional Control system Upgrade

- Install new Ethernet network infrastructure
  - Cat 5 cables, Managed Switched, Fiber Optics
  - Pull through existing cable trays or new Conduit
- Convert programs
  - PLC5 or SLC
  - Drives
  - PanelViews
- Schedule enough downtime to upgrade entire system
- Rewire and commission new system
  - Debug wiring, PLC code, Drive Config and PanelView Config

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Phased migration approach

❖ A new EtherNet/IP based system can be introduced with the existing DH+ or RIO networks assets in a phased manner.

❖ Legacy assets can be migrated one node at a time in a scheduled downtime saving time and money.

❖ Once a legacy asset has been updated it can be used elsewhere in the plant as a spare minimizing downtime.

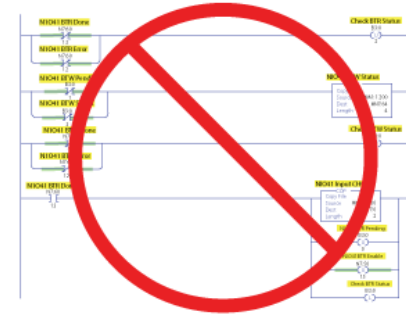❖ During commissioning if something goes wrong, you can put the legacy asset back in place.

Existing plant

Programming Station
with 1784-PKTX

DH+

Allen-Bradley® Remote I/O™ Network

PLC-5® or SLC™

PanelView™

Variable Speed
Drive

PanelView™

FLEX™ I/O

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Need to replace your Drives?

Programming Station with 1784-PKTX

No Ladder Code Changes

DH+

Allen-Bradley® Remote I/O™ Network
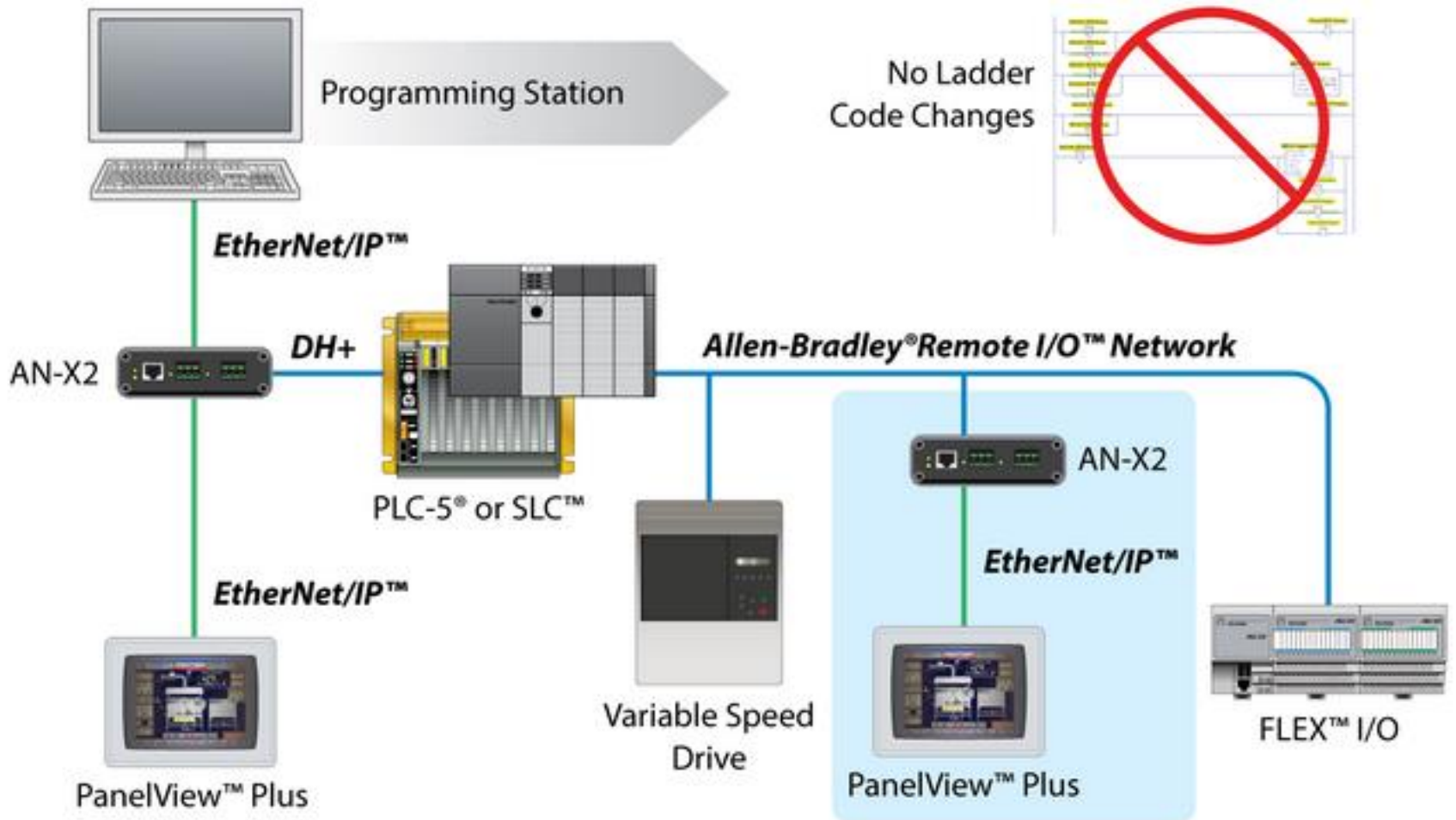
PLC-5® or SLC™

AN-X2

EtherNet/IP™

PanelView™

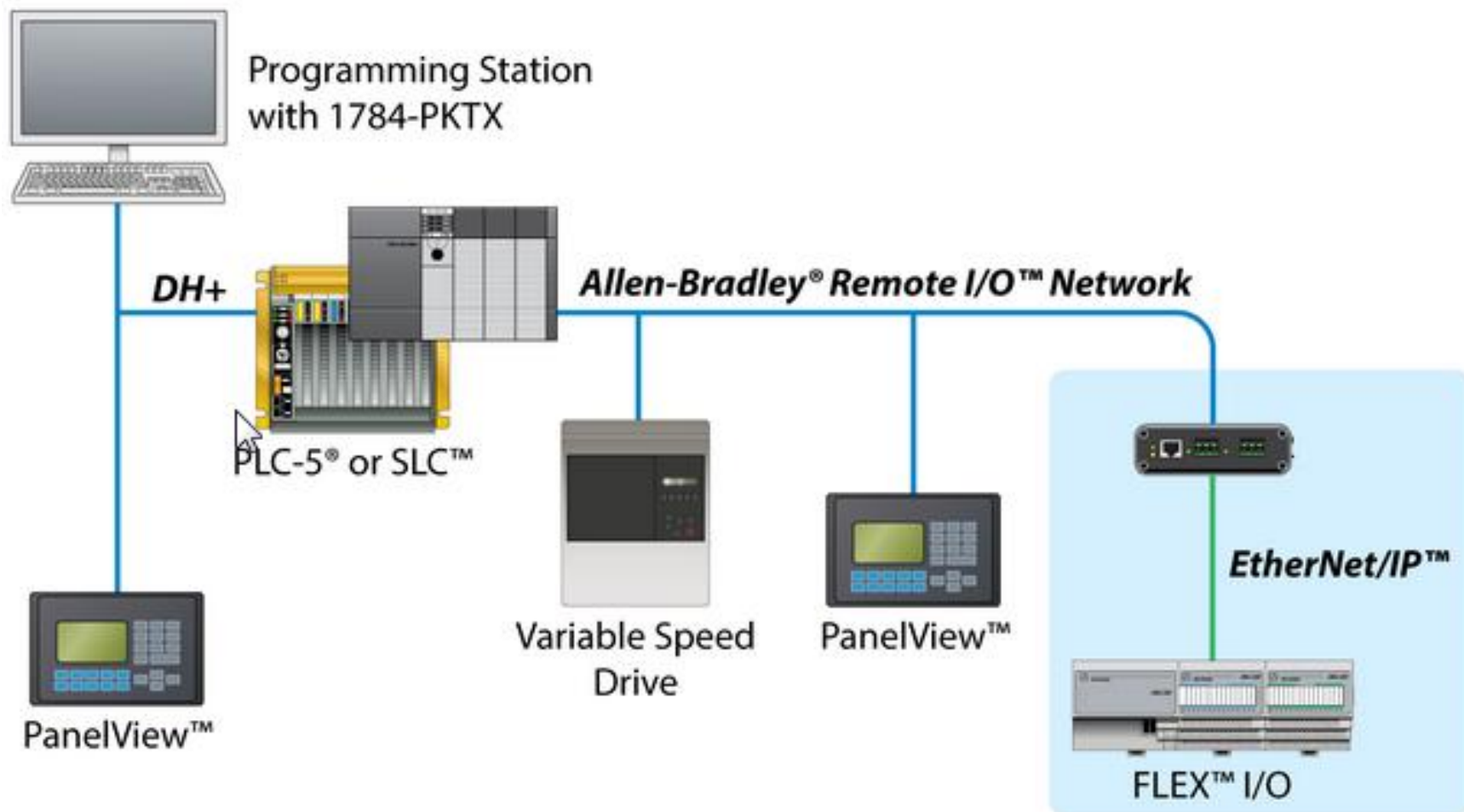PowerFlex Drive®

PanelView™

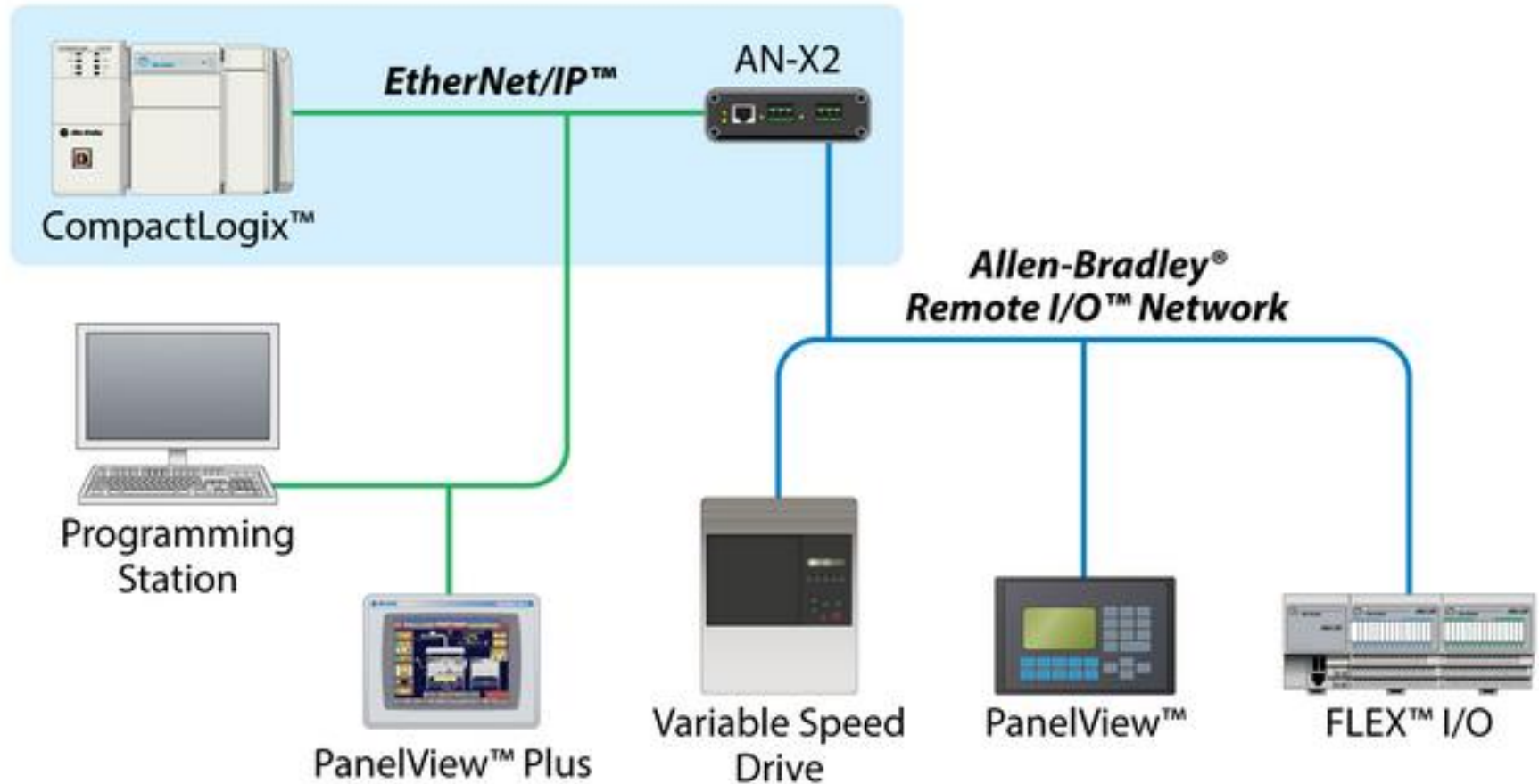FLEX™ I/O

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Are your PanelView™ Terminals or Programming Stations ready for an upgrade?

Programming Station

No Ladder Code Changes

EtherNet/IP™

AN-X2

DH+

PLC-5® or SLC™

Allen-Bradley® Remote I/O™ Network

AN-X2

EtherNet/IP™

EtherNet/IP™

PanelView™ Plus

Variable Speed Drive

PanelView™ Plus

FLEX™ I/O

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Running out of spare FLEX™ I/O Adapters?

Want to upgrade your PLC-5® or SLC™ to CompactLogix™?

Application reference – Food & Bev

Overwiew	
ProSoft Technology's Partner	IAC
Customer	S.A. Brains & Co.
Location	Cardiff, Wales.
Application description	• Brewery application. • **To update a 27 year old PLC2 to a modern CompactLogix.**
Customer needs	• **Upgrade aging PLC2 to site standard – CompactLogix PLC on EtherNet/IP.** • **Limit upgrade downtime** to 3 days. • **Retain existing IO racks.** • **Add modern SCADA system.**

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Application reference – Food & Bev

| ProSoft Technology Solution	
Our solution	• AN-X2-AB-DHRIO gateway. • Migrate existing 1771 IO to CompactLogix on EtherNet/IP.
Customer benefits	• **Reduced commissioning** –No change to field wiring. • **Kept to site standard** – no additional spares need to be held. • **IO data on EtherNet/IP can be accessed anywhere on plant network**. • 40% less than alternate solution.

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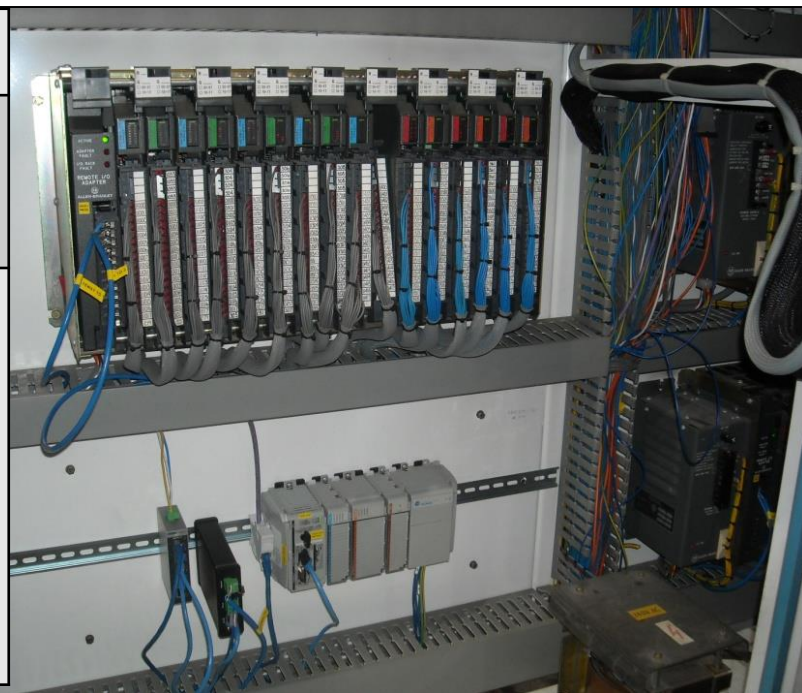
Legacy serial protocol modernisation

❖ Overview

- ♦ Rockwell has removed the DF1 port from all of their new processors.
  - – Rockwell shipped processors with DF1 (serial) ports for more than 20 years
- ♦ As of July 2017 Rockwell discontinued their 1761-NET-ENI module
  - – Uploading and downloading between Ethernet and DF1
 - – Messaging between DF1 devices

❖ Applications

- ♦ Many WWW facilities that were built using RA equipment, were built using the DF1 protocol
- ♦ Legacy network (DF1) slowly being discontinued by RA (similar to RIO)
- ♦ Water/Waste Water (WWW) networks are distributed over a large area through leased line modems
- ♦ Primary function of the module is DF1 Radio Modem with Store and Forward

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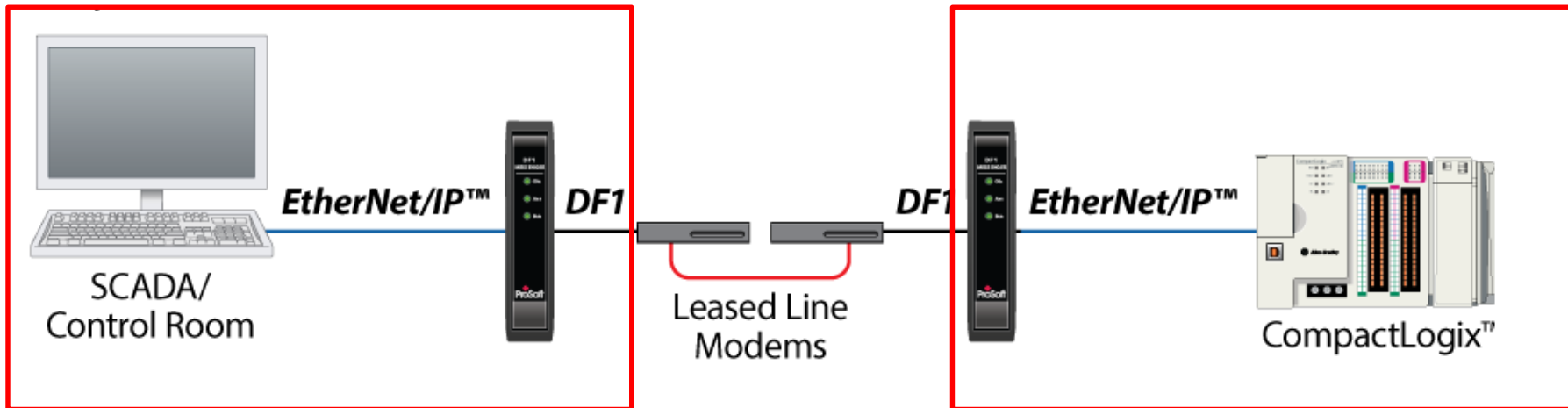
Existing network

SCADA/
Control Room

DF1

Leased Line
Modems

DF1

SLC™
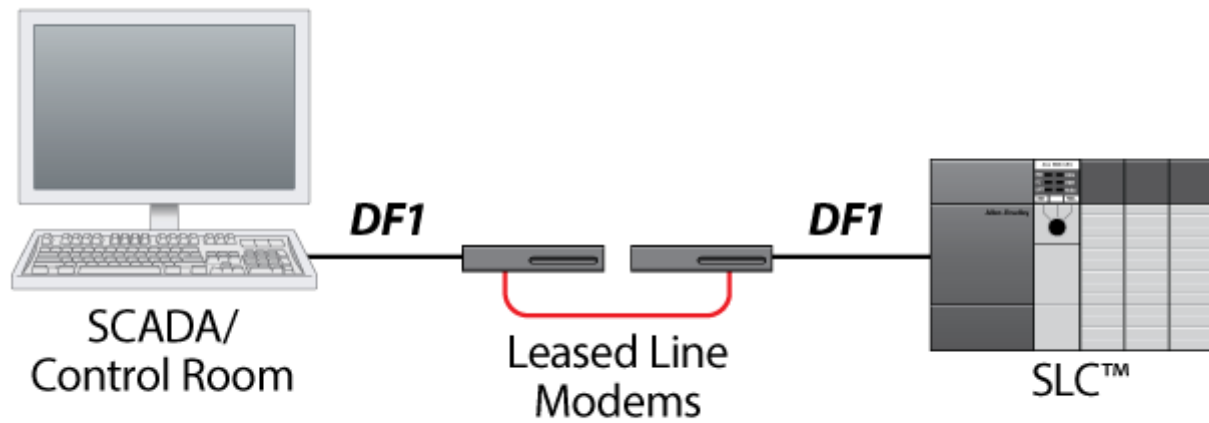
Step 1

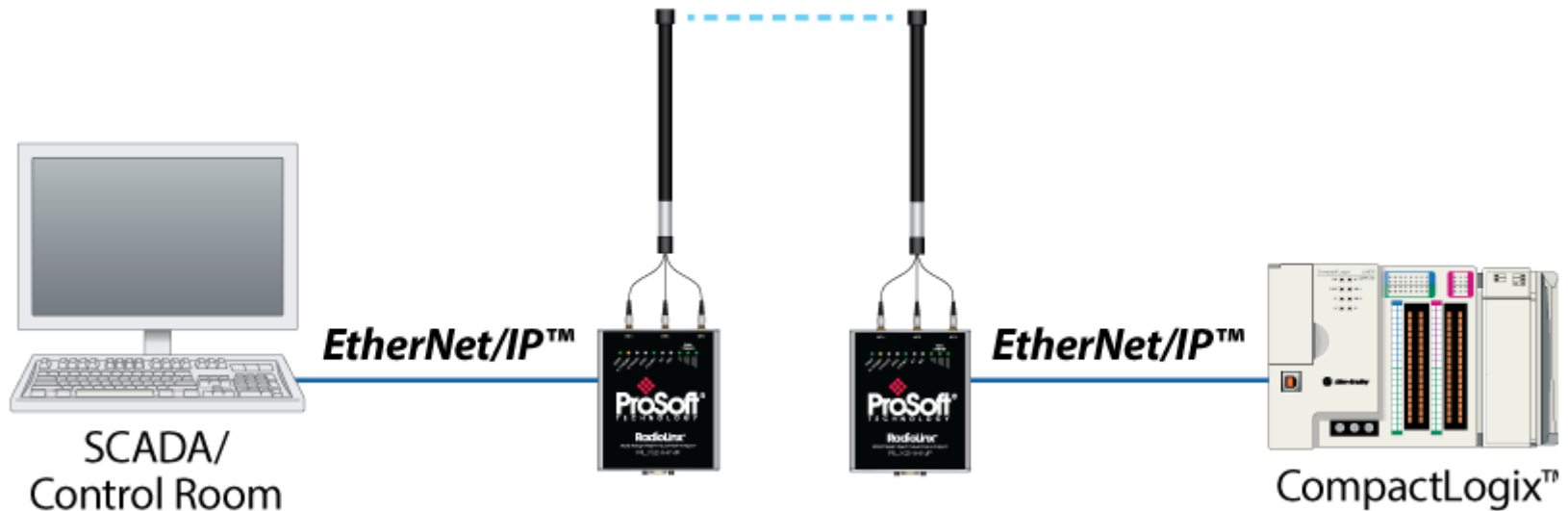❖ **Upgrade remote RTU's by using a DF1 gateway**
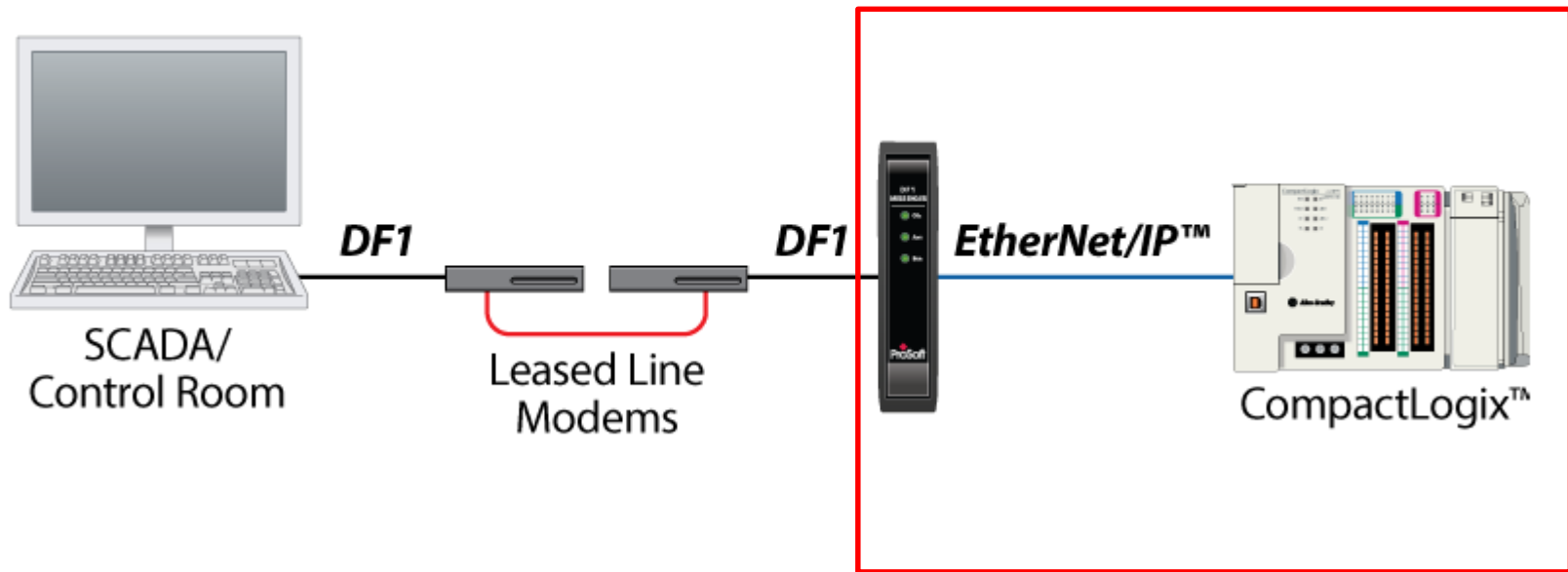
Step 2

❖ **Upgrade main SCADA to EtherNet/IP**

❖ **Add gateway to SCADA location and re-use existing network infrastructure**

Step 3

❖ **Start replacing leased line modems with Wi-Fi radios or 4G cellular gateways**

Application example

❖ **Upgrade legacy DF1 PanelView terminals to newer PanelView Plus terminals (similar to the AN-X2 with DH+ and RIO)**
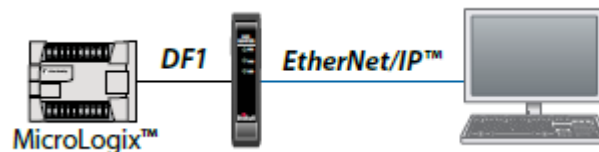
  ❖ PLX51-DF1-ENI only

❖ **PLC to PLC Messaging**

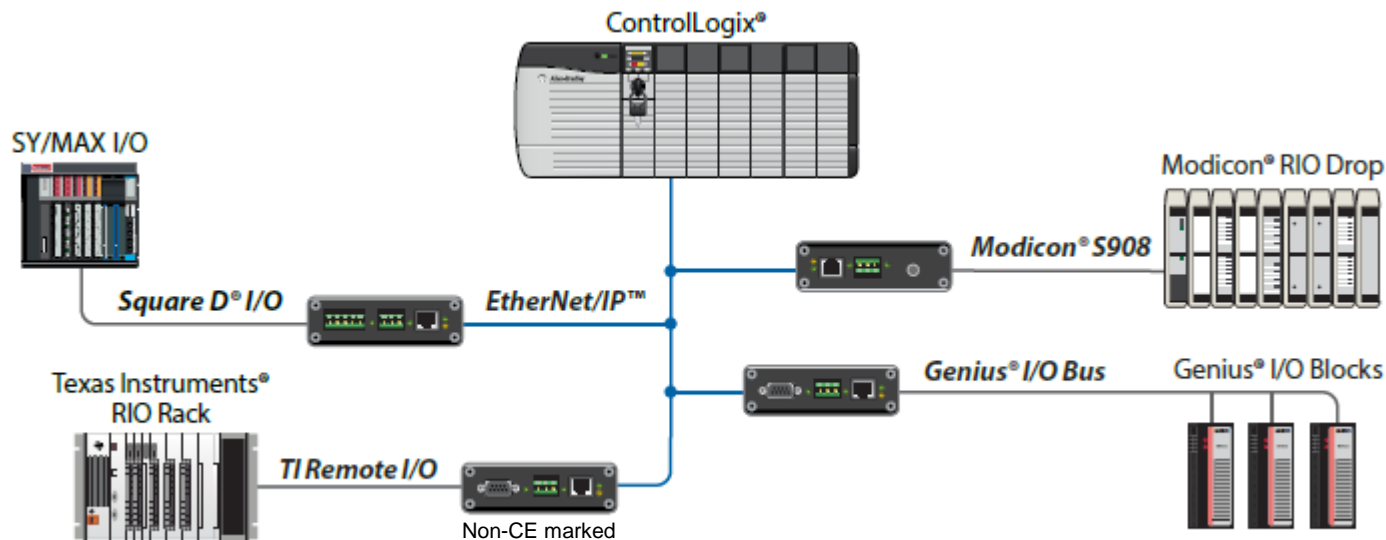❖ **Remote programming over EtherNet/IP**

1761-NET-ENI replacement

Legacy competitive PLC Modernization

❖ Enables Rockwell Automation PAC via EtherNet/IP™ to control I/O devices on legacy networks

❖ Monitor mode enables testing & verification of PAC logic before controlling I/O

DCS Migration

❖ **Upgrade to Rockwell Automation's PlantPAx DCS while using the existing legacy IO**
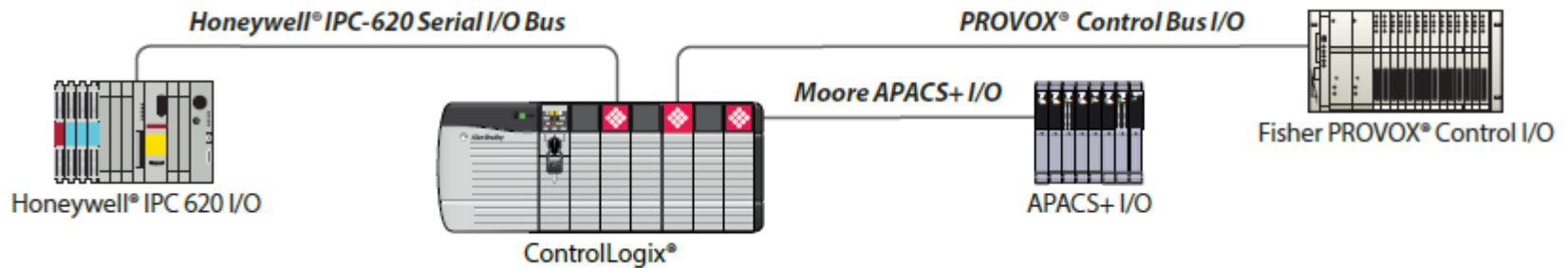
Summary

❖ Solutions to upgrade or modernise

❖ Solutions for the obsolescence problem

    ◆ Phased migration or "rip or replace"

❖ Solutions for legacy protocol modernization

❖ Solutions for competitive PLC or DCS modernisation

❖ Which strategy you choose ProSoft Technology have the application experience to advise you to plan your modernization strategy to fit your budget.

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Questions?
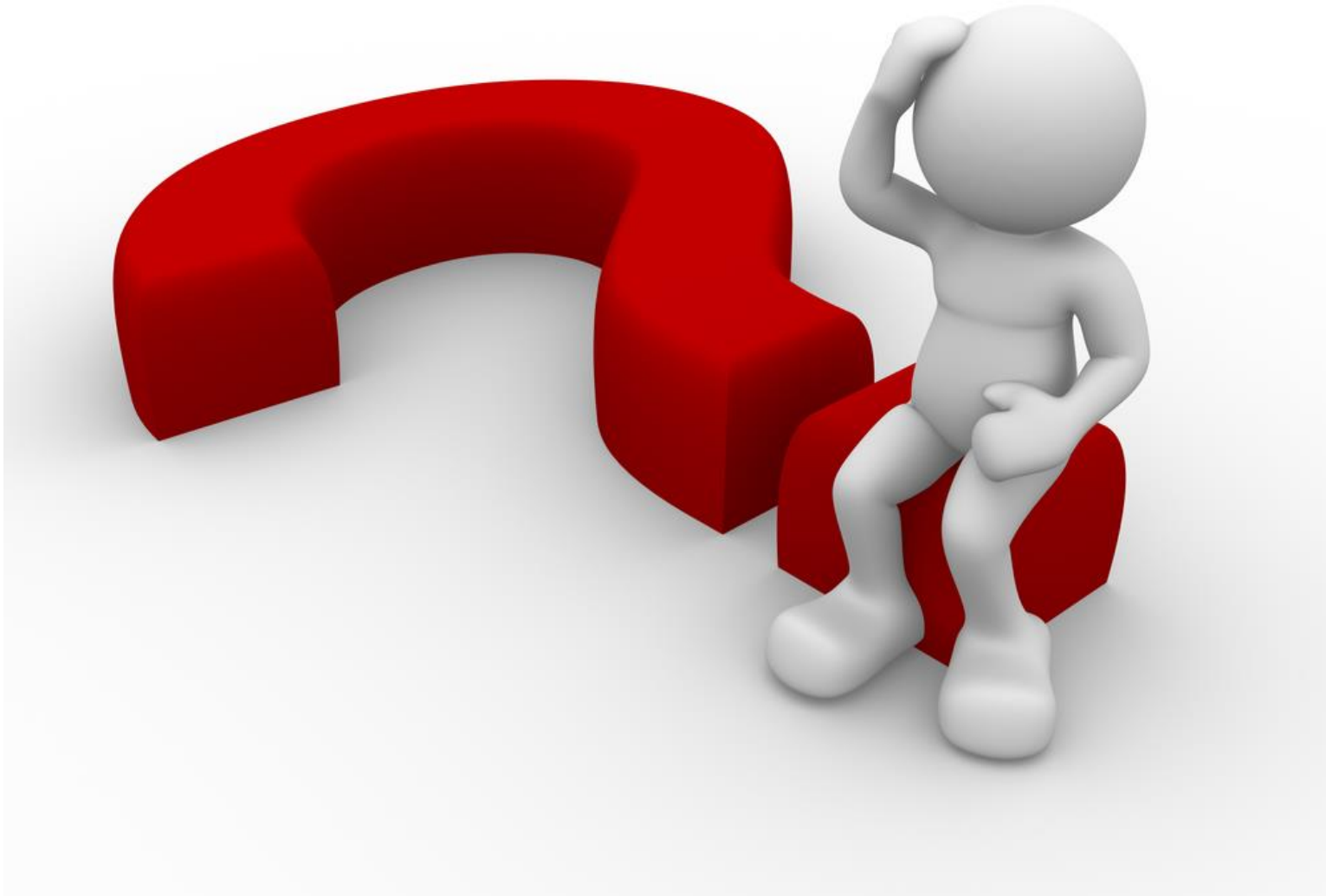
Your contact

Myles Heinekey

Regional Sales Manager   + 44 7415 864902

Northern Europe   mheinekey@prosoft-technology.com

ProSoft Technology - Manchester

Manchester International Office Centre, Suite 13, Styal Road, M22 5WB

UNITED KINGDOM

www.prosoft-technology.com

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