

Optimising the energy efficiency of your assets

MotorSys™ Solutions:

intelligent **P**ower & **M**otor **C**ontrol **C**entre - iPMCC
for continuous and critical process

By Faiz Ahmed – Marketing Activity Senior Manager,
Low voltage Equipment offer and Partner Support
Program



You need to increase your productivity



Energy management is a key challenge to succeed in increasing productivity

- With 25% of the electrical energy consumed in the industry worldwide, Oil & Gas is the most energy intensive industry
- Electric motors account for up to 70% of the Oil & Gas electrical energy consumption



iPMCC solution

The keystone of the energy
efficiency of your production
workshops

The solution you choose will strongly impact the energy efficiency of your assets

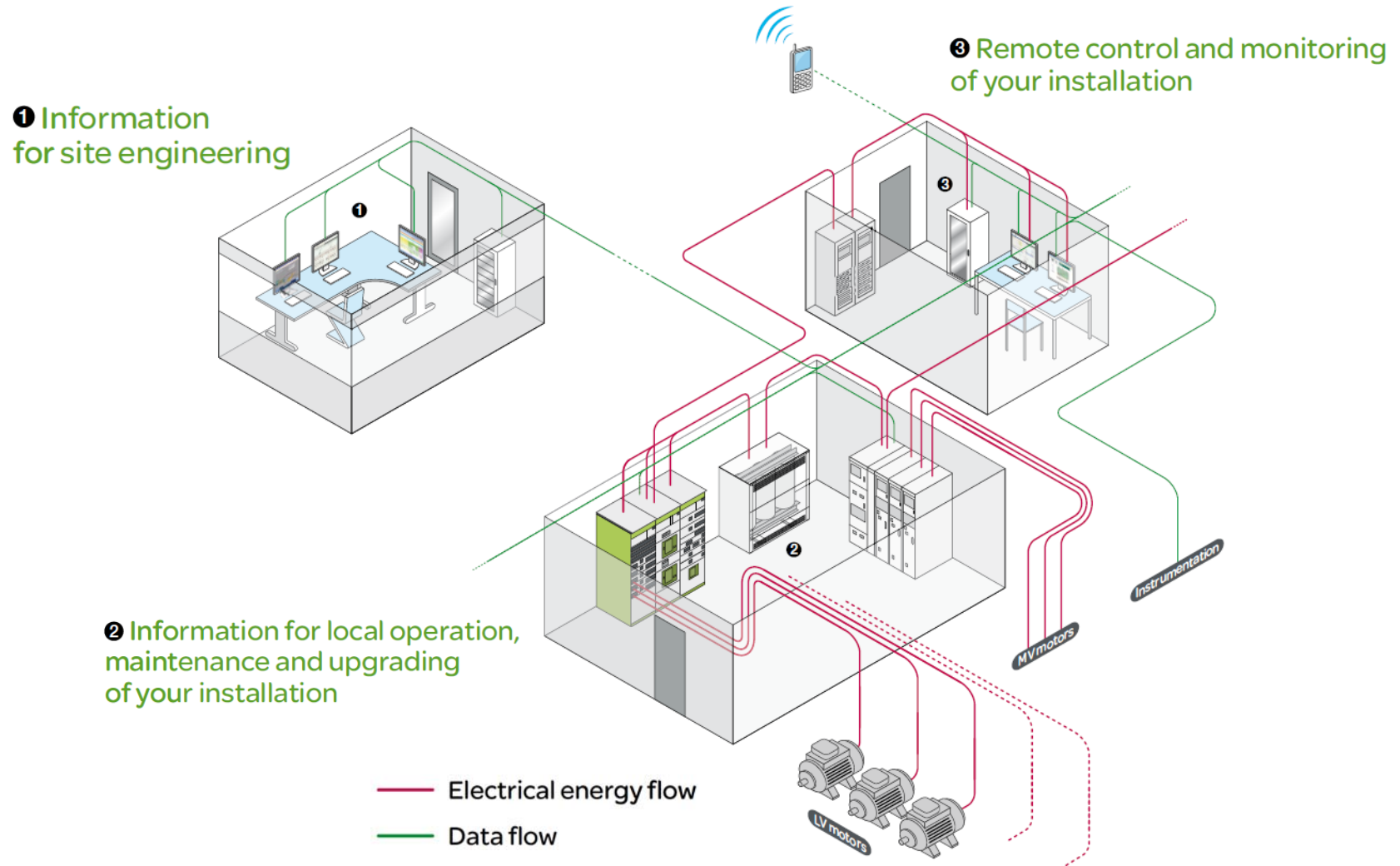
- **PCC** (**P**ower **C**ontrol **C**entre) and **MCC** (**M**otor **C**ontrol **C**entre)
- **PCC** (**P**ower **C**ontrol **C**entre) and **iMCC** (intelligent **M**otor **C**ontrol **C**entre)

iPCC (intelligent **P**ower **C**ontrol **C**entre) and **iMCC** (intelligent **M**otor **C**ontrol **C**entre)

$$(i+PCC)+(i+MCC) = iPMCC$$

- solution allowing perfect integration into:
 - energy management and control system(s) (EMCS...)
 - industrial process automation management system(s) (DCS...)

iPMCC, intelligent solutions for fast and easy access to key information from anywhere around the clock



MotorSys™ iPMCC solutions

Up to 15% increase in
productivity

Optimise the energy management and efficiency of your assets

- Improved dependability of your production tool, in total safety...
 - Continuity of service
 - Safety of personnel and assets
 - Maintainability and upgradability
- Managed lead times and reduced costs, particularly the electrical energy costs
 - Improvement of energy quality
 - Optimisation of energy usage
 - Reduction of energy consumption
 - Cost allocation

MotorSys™ iPMCC solutions

Up to 70% reduction in
untimely shutdowns

Reduce your installation downtimes

- **Safe and dependable electrical energy in your workshops**
 - Designed and built around highly dependable LV functional switchboards, tested in accordance with IEC 61439 standard, ensuring the highest Service Index (333), allowing reconfiguration without shutdowns
- **Optimised operational performance of your loads**
 - Integration of the highest motor control and protection functions level based on the best of communicating electronic relays available on the market
 - Appropriate behaviour in the event of failure in accordance with IEC/EN 60947-4-1 standard
 - Remote or local access to the information on motor's application at any time for controlling, optimising and monitoring your process



IEC 61439

MotorSys™ iPMCC solutions

Up to 90%
fewer motor burn-outs

Secure and optimise the operation, maintenance, upgrading

- Designed for safety (IEC 61439)
 - Prevention of internal arcing and confinement at three levels
 - High short-circuit current withstand
- Operation, maintenance, upgrading in total safety while energised
 - Programmation and configuration of protection relays without having to cut the power
 - Handling, tests and simulations on fonctionnal units when under load
 - Modification of the switchboard configuration alive (adding, modifying or removing motor starters)



100%

100% safe test position

MotorSys™ iPMCC solutions

Up to 50% reduction in
maintenance costs

Reduce lead times at project stage

- Engineering time
 - Pre-designed solutions
 - Whole range of design assistance tools
- Wiring time
 - Field buses
- Installation time
 - Downloadable parameters
- Commissioning time
 - Detailed diagnostics functions and statistics to identify faults and errors

Reduce costs throughout the installation entire lifecycle

- Civil engineering

- Compact design, density in motor starters to optimise square footage

- Operation costs

- Remote monitoring and control capabilities, pre-tripping alarms, prevention of machine shutdowns

- Maintenance costs

- Modular design, high precision motor protection and control functions, wide power range with just a handful of product references to manage, reduction of the number of spare parts to keep in stock, detailed statistics on motor operation for targeted preventive strategy

- Upgrade costs

- Free unassigned slots incorporated in design to build and upgrade on your investment, preassembled motor starters for easier installation

MotorSys™ iPMCC solutions

Up to 30% energy savings

Reduce electrical energy consumption, optimise its quality and usage

- Integration of possibly combined devices...
- ...to adapt to the motor production, load requirements and consumption
 - **Variable speed drives and softstarters** to reduce load peaks by 50% or more
 - **Motor protection relays** to control, manage and monitor voltage, current, power, energy... and pinpoint any deviation
-to manage reactive power factor correction and thermal withstand
 - **Capacitors** to eliminate reactive power-related costs, reduce subscribe demand while increasing energy availability, improve power quality



Allocate the cost of electrical energy

- Convert the energy costs from base costs to DVC*, for each individual motor starter to the entire workshop
 - Tracking of the motor load profile and its energy consumption
 - By using all the available data related to the electrical energy quality, consumption and usage

Illustration?
Écran
avec courbe

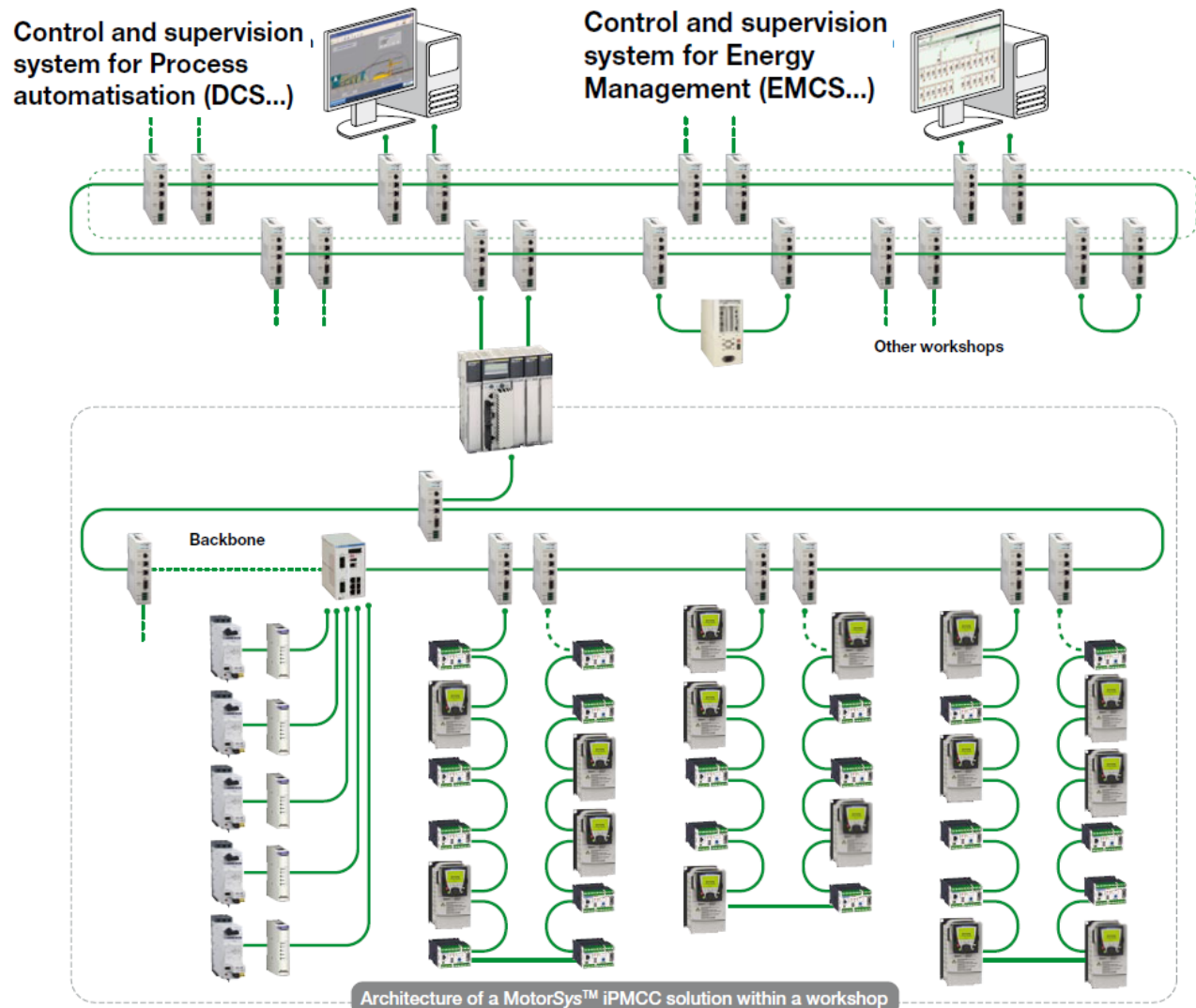
* Direct Variable Costs

MotorSys™ iPMCC solutions

Perfect integration into your
network infrastructure

Integration whatever your communication protocol & management systems, simply

- + Ethernet TCP/IP, Profibus-DP, DeviceNet, Modbus...
- + Pre-tested architectures

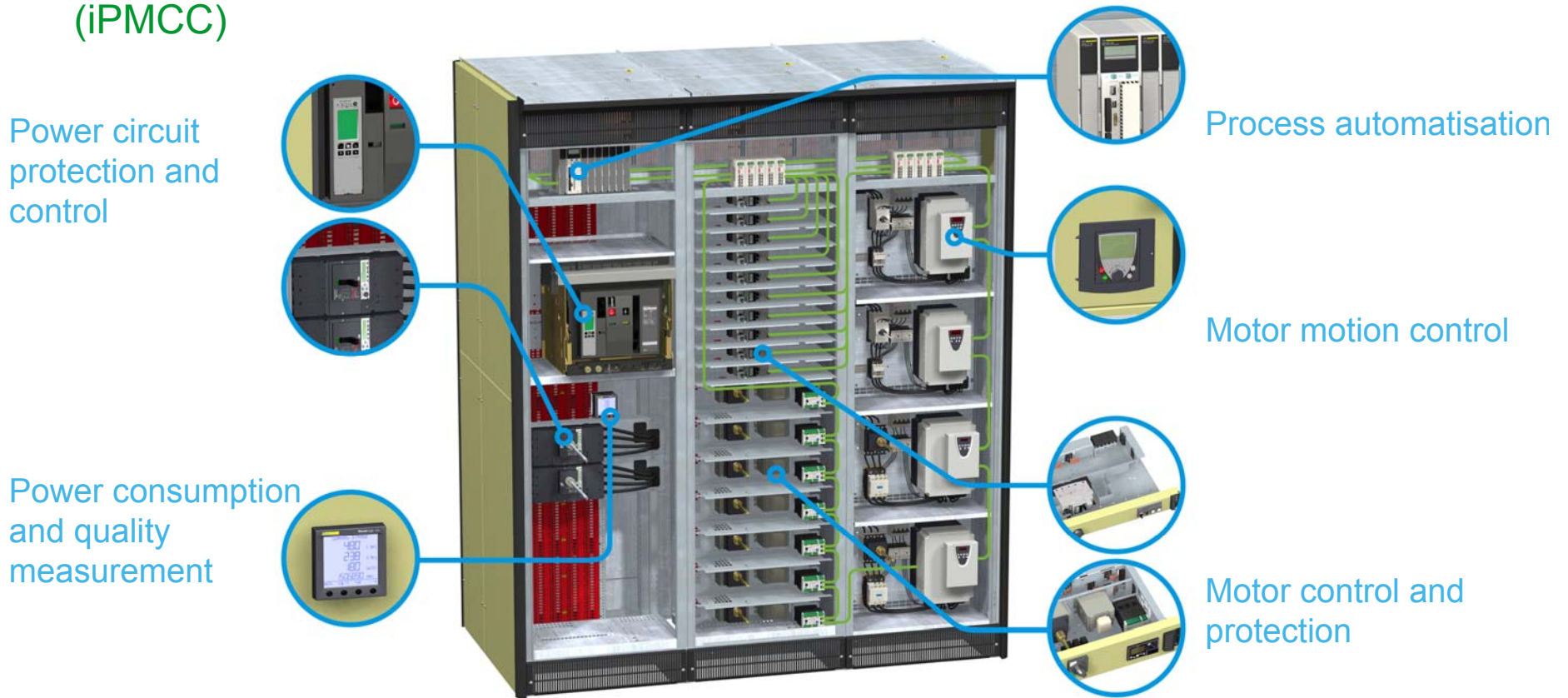


MotorSys™ iPMCC solutions

Incorporation of the best
technologies from Schneider
Electric

A wide range of customisable solutions incorporating the best of our products, systems

- Integration of the electrical distribution functions (PCC), motor control and protection functions (MCC) into intelligent and communicating architectures (iPMCC)



And much more functionalities....

With associated services, close at hand



Questions ?