

j5 2019

Seriously, isn't it time to digitally transform your industrial procedures?

In 2019, is your organization still using paper, spreadsheet, word processor and other scattered data collection methods to record and manage crucial human operations management procedures like Shift Handovers?

Put it this way, in your personal life would you swap your Smartphone for a Rotary Dial Phone? So why persist with troublesome paper and spreadsheets at dangerous industrial facilities?



It is now accepted that the use of these inadequate communication and data collection methods has contributed to the cause of many industrial disasters. The high risk of poor Shift Handover procedures has been highlighted on numerous CSB Investigation Reports over many years. In their June 2019 “Toxic Chemical Release at the DuPont La Porte Chemical Facility” Investigation Report the CSB provided the following “Shift Communication Practices Guidance to Industry”:

Effective communication between different operational units at a facility, and between supervisors and workers on changing shifts, is critical to safety.

Communication is necessary to convey the status of operations, ongoing changes, abnormalities, unusual operating conditions, or other relevant issues associated with chemical process equipment.

The more complex the process involved, the greater the imperative to ensure that communication is effective.

Reliance solely upon one form of communication, especially verbal communication, can leave the workforce vulnerable to potential gaps in information communicated, misunderstandings, or absence of critical information in what oftentimes can be an evolving situation.

“Toxic Chemical Release at the DuPont La Porte Chemical Facility” Investigation Report
CSB, June 2019

The DuPont La Porte Facility Toxic Chemical Release was also covered in a Hexagon PPM research project on “Industrial Accidents Where Poor Human Procedures Was a Contributory Factor”. The sample of 101 Industrial Accidents from the past 35 years was gathered from publicly available investigation reports and other reliable sources. The data collected again showed the devastation to those involved in these accidents, their families and the wider communities:

Incidents Sampled	Total Fatalities	Total Injuries	Percentage of Affected Assets Not Owned and Operated in 2018	Total Reported Financial Costs (USD)
101	405	2163	38%	\$151,939,200,528
Incidents Date Range	Average Fatalities	Average Injuries	Average Reported Financial Costs (USD)	
1983 to 2018	4	21	\$1,519,392,005	
Average Reported Financial Costs (USD)				
Excluding Billion Dollar Incidents: BP Deepwater Horizon Oil Spill (2010), BP America Refinery Explosion (2005), Buncefield Fire (2005) and the Occidental Piper Alpha Explosion (1988)				
\$15,940,148				

“Industrial Accidents Where Poor Human Procedures Was a Contributory Factor” Case Study

Hexagon PPM
January 2019

j5 2019 Solution

Despite the historical evidence of poor human procedures contributing to industrial disasters and strong advice from many different government agencies in different countries to improve these critical communications, there are common excuses and myths which have prevented those responsible for the safe operation of hazardous facilities to digitally transform their human procedures, such as:

Common Problem or Misconception

“Electronic logbooks are standalone and only paper over some cracks, they aren’t scalable enough to covers lots of our procedures.”

Solution

The j5 Operations Management Platform offers multiple Operations and Process Safety applications in one evolving j5 Framework. The unique j5 IndustraForm® Templates concept allows companies to consolidate all their paper and electronic forms into a single enterprise system. It also provides a clear and simple approach to adding and modifying forms to meet specific customer requirements in a spreadsheet-like configuration environment, making the digital transformation step easier.

Common Problem or Misconception

“Software applications used in our plant are unnecessarily complicated, we want our digital procedures to look and feel the same as what we currently have.”

Solution

After listening to this common concern, j5 2016 delivered the powerful j5 IndustraForm Templates solution. Which allowed users to create and modify j5 Applications in a familiar spreadsheet-like environment. j5 2019 brings additional maturity to j5 IndustraForm Templates by providing a wide variety of format theming options to really make your digitally transformed procedures look and feel familiar yet better.

Common Problem or Misconception

“We already have a lot of disconnected software and data in the Operations Department, we don’t need another detached database.”

Solution

j5 Applications and j5 IndustraForm Templates can be easily connected to other important industrial hardware and software such as Data Historians, the CMMS, the DCS, EAM systems, the PLC, and SCADA systems. New in j5 2019, there is integration with other Hexagon solutions like SDx® and SmartPlant Enterprise for Owner Operators (SPO) allowing customers to now incorporate real-time situational awareness of facility operations into their digital twin, adding unique and continuous value to industrial sites from engineering through to operations.

Common Problem or Misconception

“Configuring some of the software we use in our plant is a nightmare and we always need to go back to the vendor to change things, it is easy to change our paper, spreadsheet or word processor document procedures.”

Solution

In j5 2019, the j5 IndustraForm Designer has been enhanced further to allow the j5 Operations Logbook and the j5 Work Instructions applications to be fully configured in a flexible spreadsheet-like environment. Allowing these j5 Applications to become more dynamic as the process evolves and for different layouts to appear for different plant scenarios.



Common Problem or Misconception

"Operations Management Software is only used on big computers in the control room, we still need clipboards to conduct procedures in the field, plus there isn't any connectivity in hazardous areas."

Solution

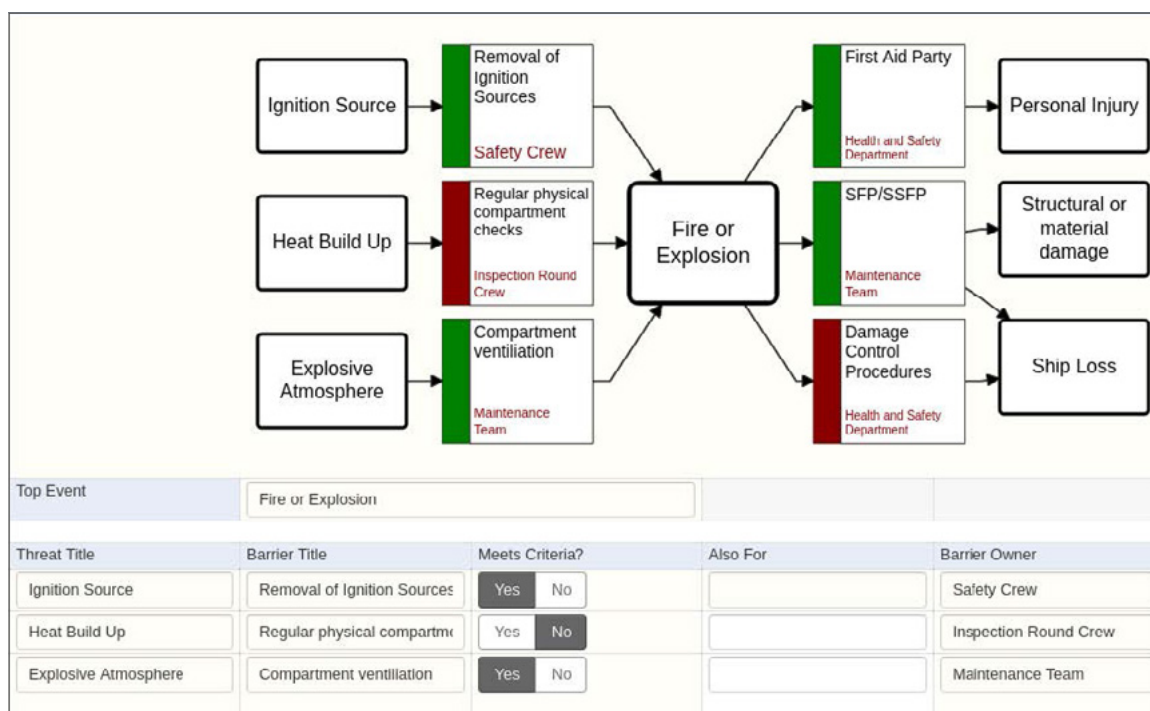
j5 2019 has again brought many improvements to j5 Mobility, including allowing users to now collaborate on the same j5 IndustraForm Templates being used in the Control Room. Personnel no longer must find the correct j5 IndustraForm Template on the j5 Mobility application, it will now be presented to them automatically in relation to their Operational Area, Role, and Date / Time windows. These can also be accessed in plant areas with no connectivity.

Common Problem or Misconception

"Shift Handover applications are just full of text and attachments, there isn't any real visualisation of what is really going on in the plant."

Solution

j5 2019 brings several new visualization tools to the j5 Framework. For example, the new integration with Hexagon SDx® which handles multiple types of documents such as PDFs, AutoCAD, MicroStation, Intergraph Smart® formats and even 3D models and laser scans! j5 IndustraForm Templates now also have more visualization options including Bow Tie Diagrams. j5 Mobility entry Geolocation GPS Tracking can now also be recorded.



Bow Tie Diagram in a j5 IndustraForm Template

Common Problem or Misconception

"Our plant operates 24/7, we need something that is quick to implement and will provide quick time to value, industrial software is never usually like this."

Solution

In less than 6 months after purchasing j5 Operations Management Solutions, Deepwater Subsea reported incredible benefits because of this quick and simple digital transformation initiative. There has been a 70% saving in productivity when it comes to documentation and completion of inspections. There has also been a 95% saving in time retrieving and searching for quality evidence post inspection.

Additionally, in May 2019, Peter Reynolds – an ARC Advisory Group Consultant – highlighted the positive “breakthrough” impact that the “Digital Transformation of Industrial Procedures” can provide to manufacturers:



Digitally transformed industrial procedures could well be the next ‘killer app’ in a company’s smart manufacturing journey by supporting new levels of human performance through deeper integration of manual actions with automated control logic.”

“Digital Transformation of Industrial Procedures” Report

Peter Reynolds, ARC Advisory Group, May 2019

With the historical devastation caused by poor Shift Handover procedures, the ongoing advice from industry and government agencies to improve human procedures at industrial sites, and advanced yet simple digital technology now accepted and prevalent in mainstream culture.

In 2019, there really is little reason not to digitally transform crucial processes that affect human and environmental safety.

Visit **hexagonppm.com** to find out how j5 2019 can help you Drive Shift Excellence to fully utilize your workers and ensure they get home safely.

About Hexagon

Hexagon is a global leader in sensor, software and autonomous solutions. We are putting data to work to boost efficiency, productivity, and quality across industrial, manufacturing, infrastructure, safety, and mobility applications.

Hexagon’s PPM division empowers its clients to transform unstructured information into a smart digital asset to visualize, build and manage structures and facilities of all complexities, ensuring safe and efficient operation throughout the entire lifecycle.

Hexagon (Nasdaq Stockholm: HEXA B) has approximately 20,000 employees in 50 countries and net sales of approximately 3.9bn EUR. Learn more at hexagon.com and follow us @HexagonAB.