

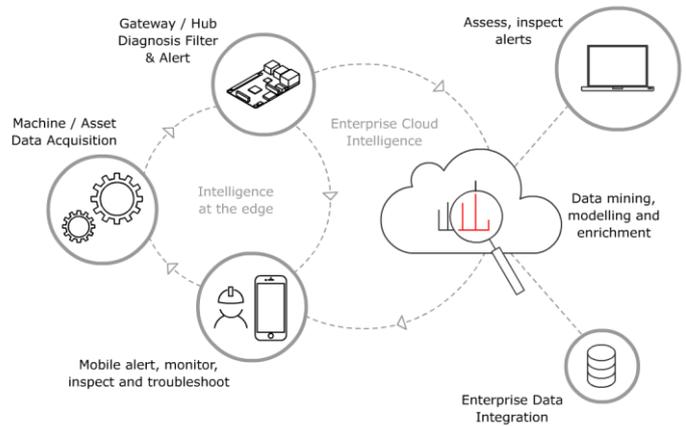


## Distributed Intelligence for the Industrial Internet of Things

**XpertRule** is the intelligent brain of IoT; combining expert knowledge and analytics to invoke decisions, actions and business outcomes everywhere in the IoT ecosystem; on machine, gateway, cloud and mobile.

No other IoT rules solution handles this level of complexity, agility, scalability and integration.

Real-time rules based Intelligence at every node of the ecosystem; delivering rapid decisions and actions for the connected business.



### Real-time insight and actions from complex machine data

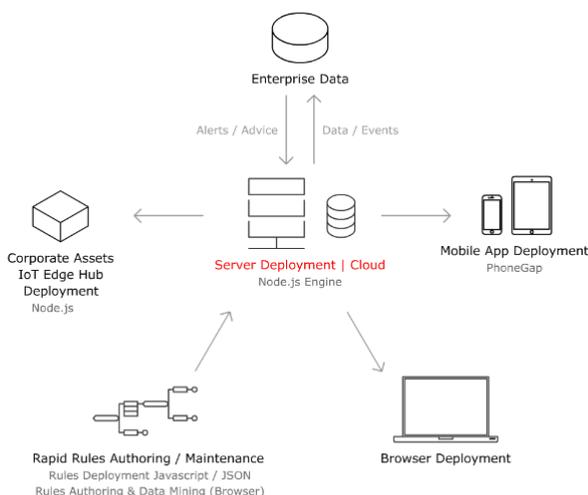
Complex operational processes, multiple disparate assets and huge volumes of machine data present opportunities and challenges; such as how to capture, process, analyse and take action to optimise and improve business outcomes.

**XpertRule** software enables the combination of expert operational knowledge with machine data, to continually improve performance against critical business measures (KPIs).

Capture and analyse real-time and historical machine data from any source—including industrial control systems and connected devices. Author complex operational logic simply and quickly with symbolic reasoning, negating the need for technical development. Monitor real-time conditions and embed human interaction with intelligent alerts to smart mobile apps.

### Agility, Simplicity, Speed & Scalability – a powerful IoT engine

**XpertRule** is the engine of choice for complex, industrial IoT applications; with the ability to handle multiple data sources, complex logic, disparate assets and provide edge, cloud and mobile intelligence, all in one solution.



**Deploy anywhere** with our **Node.js** light footprint, high performance rules, decisions and analytics engine to run on IoT edge hubs, cloud platforms (e.g. Azure Fabric) and as native Apps on mobile devices.

**Rapid authoring of complex logic** with our **browser-based graphical rules authoring** environment; enabling operational domain experts to build IoT applications significantly faster than it takes for technical resource to develop comparable code.

**IoT platform integration;** add intelligent applications to any IoT ecosystem (Azure, AWS, ARM mbed, IBM Node-RED/Bluemix)

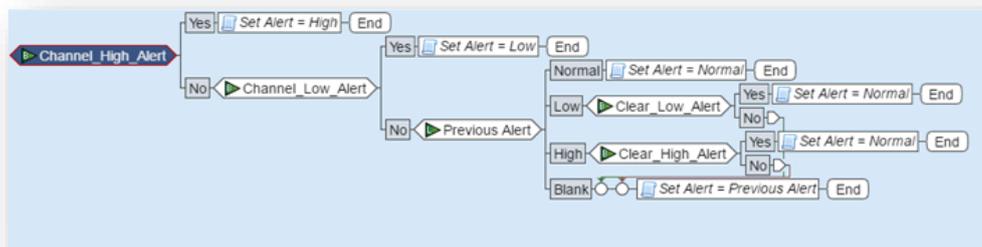
## Why XpertRule? More than a Rules Engine.....

XpertRule software has been developed with over **30 years' experience** of Artificial Intelligence, Expert systems, rules automation and analytics. This is a modern technology platform developed with over 200 client's feedback. Our capabilities have been measured against leading comparable decision and analytics engines. Our differentiators:

**Actionable real-time intelligence** – XpertRule goes beyond alerts, alarms and dashboards, by combining data acquisition with an interactive expert system (with UI) running in a browser or as native Apps on Mobile Devices. The two way linking of the 'back end' runtime node.js rules engine with the 'front end' expert system UI engine through smart notifications, facilitates the development of advanced actionable real-time insight solutions.

**Complex knowledge Representation** – XpertRule allows non-technical developers to build complex logic quickly. Multiple methods for defining complex, nested, back chained logic which is far more sophisticated than the basic IF THIS THEN THAT rules capability in other systems.

**Embedded Analytics** - Combining decision rules with analytics models & data mining for propensity modelling. Includes auto-induction of Knowledge / Decision Trees from Data (Decision Tables)



## Reduce downtime, improve speed & quality of response

### Predictive maintenance & Condition Monitoring

XpertRule embedded data mining and propensity modelling enables the authoring of predictive rules and alerts. When combinations of data point to an approaching condition or event, intelligent alerts can allow for interventions before equipment / process failures

### People powered IoT

By integrating people to your IoT ecosystem, through the use of smart apps on mobile devices, raw machine data can be augmented with expert human insight, events can be addressed at source, and intelligent scripting/troubleshooting can raise the standard of human response to expert level

### Distributed Intelligence

Improve speed / quality of response by deploying Intelligence at the edge. Reliance on cloud connectivity impacts the timeliness & reliability of data capture and analysis. Cost, security and latency are all impacted negatively by IoT ecosystems reliant on cloud-based intelligence.

### Case Study – Condition Monitoring for Global Powder Milling OEM

The expected customer benefits from improved remote condition monitoring and support are faster resolution of problems, decreased equipment down time and more efficient operation of the plant and equipment. We have obtained the exclusive rights to deliver the XpertRule Condition Monitoring solution to the particle processing sector and we are pleased to be able to offer this solution to our world-wide customers to install on their own equipment



Iain Crosley, Managing Director of Hosokawa Micron UK