

A futuristic robot with glowing blue eyes and hands is shown interacting with a digital interface of a power grid. The robot is positioned on the left side of the frame, looking down at a grid of power lines and towers. The background is a blurred cityscape at night with bokeh lights. The overall color scheme is dominated by blue and white tones.

wrench

# Leveraging AI to Monitor and Control Projects in Unpredictable Situations

[www.wrenchsp.com](http://www.wrenchsp.com)

The energy sector today contends with climate change and geopolitical upheavals along with manpower shortages, material price fluctuations, import restrictions/customs delays, regulatory and environmental approvals, supply chain disruptions and all the other age-old challenges it has always faced, and as a result it operates in an environment of continuous chaos.

As a digital EPC project control specialist, I believe AI holds the key to successfully navigating the unpredictability and steering projects safely through the chaos.

The problems start at the beginning of a project, during planning. In the past, before Covid and climate change, you would begin by ascertaining how many resources were required for a task and what kind of skills they had to have, then you would factor in weather and local holidays that might impact how your materials were sourced or how they reached you and where your workers came from,

and you would plan accordingly. Now you have to also wonder whether the resource requirements will suddenly change, mid-stream, or will have to be shared on multiple projects running concurrently.

In one of our projects, we had unexpected rain for a month - and rain had never before happened during that season - and we struggled with laying the foundations because of the mud while all our workers, who were migrants from another part of the country, were kept idle. We had to eventually go back to the drawing board and change the design.

Another example: the place from which you regularly import your materials suddenly goes off limits thanks to war or a lockdown - what do you do then? How do you pivot without disrupting your schedule?



# AI as an Early Warning System

In today's reality unforeseeable things keep happening. The question is how to respond to such changes and reforecast your schedules and get back on track?

Artificial Intelligence (AI) is the answer.

Here's how it works. The first time a project manager is faced with an unforeseen problem that threatens to derail his schedule and he somehow eventually (hopefully) figures it out and takes corrective action and brings things back under control,

his AI logs that action and the conditions preceding it so if something similar occurs in the future, the problem and its solution is available and the manager can respond without panic and without reinventing wheels.

If you get a weather forecast about an impending cyclone, AI will not only notify you, it will remind you about what worked or didn't work without your needing to talk to anyone or go through your archives;

your AI will have already collected and collated all this information, analysed it, and will present it to you at the right time.

# AI

## As Advisor



Let's talk about the progress reports a manager gets during project execution. Earlier, it wasn't the easiest thing to coax out different types of reports unless you knew something about programming or had access to somebody who did. Even if you had the best system money could buy, extracting information at a useful time in a useful format wasn't necessarily something you could count on.

There's also information overload. As a manager you don't really need all the data or even a lot of data, you need only data that has to be acted on - but how do you recognise it? To put it another way, you don't need to be notified when things are going right, you only need to be notified when things are in danger of going wrong.

With AI, your system can tell the difference, it knows how to separate the wheat from the chaff and will present it in a way that is easy to read and 'actionable' (ie has been analysed and formatted into reports and dashboards or some other method of delivery that gives you the critical points at a glance) and not only do you avoid the tedium of sorting and verifying and filtering, you get the information you need when you need it and even if you don't know you need it ie when preset conditions are met.

In that sense, AI is like a trusted and proactive Advisor that never sleeps, never flags, and never makes mistakes.

Some have concerns, which is understandable because AI is so new (also the 'I' in AI can be vaguely terrifying) but those concerns are unjustified because the role of AI in the context of project control and monitoring is simply to help with human decision-making. That's why senior managers must learn to recognise AI in its current form as just another tool, like EDMS or PMIS or CAD, and acknowledge that using it would only strengthen their own skills and their own roles. Even with an AI-powered system, all the decisions will still be made by human managers; the difference is that those decisions will be measurably more effective.

# AI as a Catalyst For Innovation



Wrench's Zero Tolerance to Delay policy allows us to introduce customers to the benefits of AI-driven digital solutions in a low-risk and tangible way and without sacrificing sustainability, health, or other long-term goals.

Our mission over the last twenty years has been to harness emerging technologies to accelerate our own growth and the growth of our customers and to that end we've created products and solutions that address the key problems faced by process-driven industries.

I hope this conference brings to light the innovations currently taking place in the field of AI and digital technology so that the Energy industry can look to the future with optimism and excitement and confidence.



### **Varghese Daniel**

Co-founder and CEO of Wrench Solutions. He developed Wrench SmartProject, the world's first AI-powered integrated Project Management Information System (PMIS) for capital projects, and leads the mission of achieving Zero Tolerance to Delays in capital projects worldwide. A thought leader and regular speaker in EPC forums, he writes multiple articles in EPC magazines to promote leveraging technology in project management.

# wrench

Website: [www.wrenchsp.com](http://www.wrenchsp.com)  
Email: [getinfo@wrenchsp.com](mailto:getinfo@wrenchsp.com)

