Maintenance Scheduling using Big Data, IoT and Agent Based Simulation

Accurately Predict and Perform Maintenance When and Where Needed

19 - 23 January 2020
10 - 14 August 2020
Dubai, United Arab Emirates
WHY CHOOSE THIS TRAINING COURSE?

No matter how expensive and robust the system or machine is, it will work for only so long if not maintained properly, more systems, processes and machines you have maintenance cost will skyrocket, and the deadlines will come upon your company even before you realize it. Properly maintaining your systems and machines makes failure rates lower and production downtimes seldom and less expensive, however as the maintenance activities are costly, they need to be planned based on the accurate predictions as maintenance based solely on manufacturers manuals are usually not good enough as manufacturers have tested only in the laboratory environments and the environments where the systems are used are much different from the laboratory environments. With Big Data and IoT maintenance planning and failure rate prediction is now much easier and the companies who use the benefits of these concepts are improving their maintenance schedules, reducing the costs and downtimes therefore winning over their competition. With the addition of agent based simulation, the machine learning and deep learning algorithms could be expedited and the maintenance predictions made as close to the real life as possible, as we can simulate the behavior of aging assets and new workforce behavior, or the introduction of cutting edge technology to aging workforce, something which is not in the user manuals, but it is omnipresent in today’s industry.

This training course will feature:

- Maintenance principles, downtimes and preventive maintenance applications
- Using Predictive Analytics to Optimize Asset Maintenance
- Means and methods how to reduce/minimize/optimize asset life cycle costs
- Big Data and IoT roles in maintenance planning and scheduling
- Using AnyLogic software for process design and predictive maintenance optimization
- Advanced concepts: Aligning the industry needs with the workforce availability

HOW WILL THIS TRAINING COURSE BE PRESENTED?

This AZTech training course will utilise a variety of proven adult learning techniques to ensure maximum understanding, comprehension and retention of the information presented. This includes presentation of theoretical concepts, video lectures and many exercises that will be done through the guided work of the delegates themselves. Delegates will be guided through the real-life examples and will be provided with Personal Learning Edition of AnyLogic software, as well as introduced to Personal Learning Edition of AnyLogistix software and their capabilities.

WHAT ARE THE GOALS?

By the end of this training course, participants will be able to:

- Understand the importance of maintenance planning and scheduling
- Understand the capabilities of Agent Based simulation
- Acquire the knowledge of using AnyLogic software for maintenance planning and simulation
- Import, analyze and interpret Big Data Through Predictive Analytics for Maintenance Optimization
- Understand the benefits of IoT for automation of maintenance scheduling and downtime reduction
- Perform the optimization of maintenance scheduling using AnyLogic simulation software

WHO IS THIS TRAINING COURSE FOR?

This training course is designed for all professionals working in the field of data analysis, oil and gas exploration, geology and reservoir modelling.

This AZTech training course is suitable to a wide range of professionals but will greatly benefit:

- Procurement Planners, Maintenance Planners, Asset Managers
- Data Scientists and Data Analysts
- Logistics and Supply Chain Planers
- Other professionals involved in procurement, maintenance and operations of assets

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THE COURSE CONTENT

Day One: Predictive Asset Maintenance
- Reactive Maintenance
- Maintenance Reliability
- Contribution of Planning Coordination, and Scheduling
- Symptoms of Ineffective Job Planning
- Maintenance Deliverables
- Exercise: Introduction to AnyLogic and AnyLogistix software

Day Two: Using Predictive Analytics in Maintenance Systems
- Data management
- Big Data Quality and sources
- Dealing with large data sizes
- IoT and adaptive maintenance: Integrated data collection
- Uncertainty in implementation cost and Return on Investment
- Exercise: Design the data collection and modeling and simulation tools

Day Three: Maintenance Planning Principles
- Work order system
- Maintenance requirement forecasting
- Traditional forecasting methods
- Downtime planning and mitigation
- Costs of poor planning
- Ripple and Bullwhip effects on production originating from poor maintenance plans
- Exercise: Improving maintenance process with AnyLogic agent-based modeling

Day Four: Spare Parts Procurement and Inventory Planning
- Procurement for maintenance
- Spare parts inventory and availability
- Development of Work Programs and the Maintenance Calendar
- Sizing the Maintenance Staff
- Exercise: Defining and optimizing supply chain process of spare parts in Any Logistic

Day Five: Proactive Maintenance Planning
- Detailed Planning of Individual Jobs
- Materials Support
- Work Measurement
- Analytical Estimating
- Coordination with Operations
- Exercise: Job Feedback, Close Out, Analysis, and Schedule Compliance using agent-based modeling

THE CERTIFICATE
AZTech Certificate of Completion for delegates who attend and complete the course.
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<table>
<thead>
<tr>
<th>DATE</th>
<th>VENUE</th>
<th>FEES(USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>19 - 23 Jan 2020</td>
<td>Dubai - UAE</td>
<td>$4,950</td>
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REGISTER NOW

*This fee is inclusive of Documentation, Lunch and Refreshments and exclusive of 5% UAE VAT

Complete & send by fax/mail to address given below. Please use BLOCK CAPITALS.

REGISTRATION DETAILS

FAMILY NAME:  
FIRST NAME:  
POSITION: COMPANY:
MAILING ADDRESS:  

TELEPHONE: MOBILE: 
FAX: EMAIL: 

AUTHORISATION

AUTHORISED BY:  
POSITION: EMAIL:  
TELEPHONE: FAX: 
POSTAL ADDRESS:

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☐ PLEASE INVOICE ME  
☐ PLEASE FIND ENCLOSED A CHEQUE PAYABLE TO AZTECH  
☐ ONLINE / CREDIT CARD

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Our training portfolio will provide you a number of seminars and courses to choose from depending on your organisational goals and personal development objectives.

HOTEL ACCOMMODATION

Hotel accommodation is not included in the Registration Fee. A reduced corporate rate and a limited number of rooms are available for attendees wishing to stay at the hotel venue. Please make your request for accommodation at least 3 weeks prior to the commencement of the course.

EVENT DISCLAIMER

We reserve the right to cancel or postpone a seminar or related event, change venue, substitution of the Instructor and alter the course content at our sole discretion. If this occurs, our responsibility is limited to a refund of any registration fee(s) already paid. We are not responsible for airline tickets, hotels costs, other tickets or payments, or any similar fee penalties or related or unrelated losses, costs and/or expenses registrant may incur or have incurred as a result of any trip cancellations or changes.

CANCELLATION & SUBSTITUTION

You must notify the Registrar of cancellations at least 2 weeks before a scheduled seminar in order to be eligible for a credit. If you cannot attend, you may send a replacement from your organisation at no charge. There is a $250 handling charge for all cancellations or rescheduling. We reserve the right to cancel a seminar due to low enrollment. All registrants will be notified in advance and a full refund will be provided upon request.

CERTIFICATION

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4 WAYS TO REGISTER

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*This fee is inclusive of Documentation, Lunch and Refreshments and exclusive of 5% UAE VAT