Level 3: Industry 4.0
Smart Maintenance

FESTO

Level 3

The success of any modern production cycle is rooted in 'up-time.' As the production becomes increasingly more interdependent, the necessity for a sound maintenance strategy could help to avoid great losses. This course empowers students with the advanced knowledge and tactical hands-on experience needed to help mitigate those opportunities lost by exploring and master topics such as Preventative Maintenance, Data Analysis, LEAN, and Shop-Floor Communications. Using a strong foundation of theoretical knowledge, coupled with lab exercises and scenario based use-cases and tests, students are relayed the skills necessary to become an integral part of the development, maintenance, monitoring, and controlling of an industrial maintenance strategy.

Course Topics

- The right maintenance strategy for the right application
- Key Performance Indicators for maintenance
- Reactive maintenance
- Preventive maintenance
- Condition monitoring
- Predictive maintenance
- Data analytics
- Smart maintenance
- Mobile maintenance
- Remote services

Core Competencies

- Ability to identify the right maintenance strategy
- Ability to calculate Key Performance Indicators
- Ability to perform a target-oriented elimination of machine faults and to identify main problems
- Ability to define service and inspection periods for a high machine availability
- Ability to identify possible applications for condition monitoring solutions
- Ability to perform simpler data analytics
- Ability to practice mobile maintenance and augmented reality

Equipment

Learning Factories and Labs Solutions

The Industry 4.0 family of products from Festo include an MES Software. This modern and real world MES includes a Quality Management section of the MES4 software. In addition, energy monitoring tools are included. These allows students to learn how to monitor and utilize key data that will allow maximum up time:

- Cycle times
- Condition Monitoring
- Smart sensor data
- Spikes/drops in energy use
- Number of cycles per component