

SIEMENS

Ingenuity for life



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EPA - 设备预测性维护系统

切合实际的工业AI应用实践与落地
以用户价值为导向的创新共赢

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EPA致力于为全球客户提供设备预测性维护支持



提升工厂设备的可靠性以优化生产效率和安全

对运行设备进行预测性分析以避免风险停机

在流程工作过程中分析并掌握设备的运行特性以感知并排查出异常情况

提升资产运维管理效率

及时有效的了解设备健康状况

助力实现设备维护策略的升级，即基于时间的预防性维护向基于状态的预测性维护升级
支持远程监控和症状识别

智能化大数据分析辅助更精准的决策性判断

识别数据中隐藏的测点关联性来进行综合全面的运维决策

持续性的机器学习积累数据和经验以确保24/7稳定的监控性能

优化人力资源利用率，构建企业竞争力

EPA致力于为用户创造价值



收集现场历史生产和运维数据
分析各测点关联关系并建模



实时状态监测各模块运行状况
并通过报警列表传递风险告警信息



智能化诊断
及运维报告



数据驱动与机理
经验紧密结合
寻求关联关系



运行状况
与发展趋势
一目了然



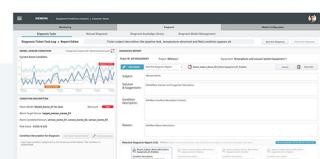
更快的症状分析
提升诊断效率



智能化
机器自学习



最大程度
降低
生产风险



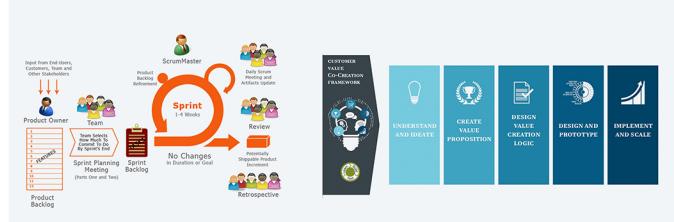
基于知识库
优化人工诊断
提高准确率
降低误判风险

为数据管理和分析提供操作界面和信息交互服务
以满足不同用户不同的运维环境和要求

先进的数据分析技术，如机器自学习和数据可视化分析技术，对设备进行过程监控，并根据实际情况提示预警信息和风险

基于NLP（自然语言分析）的运维诊断技术，可根据人工输入的异常情况描述，快速准确的定位以往事件中相关的维修诊断报告

EPA是通过敏捷开发管理和设计导向思维与客户共同创造的研发成果



EPA以用户为中心，与用户一起创新共赢

在研发过程中以设计为导向，定义产品内容，以客户的需求为核心，定期进行客户互动反馈，层层推进研发，为用户创造价值并转化为实际商业产品中。

EPA贯彻敏捷开发的“构建-测试-学习”理论逻辑进行开发
与终端用户紧密合作，在不断的冲刺迭代中逐步完善产品。

EPA由数字化工业集团和中国研究院合作研发完成
且使用的技术为经过多年实践验证的工业人工智能技术

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EPA - Equipment Predictive Analytics
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Equipment Predictive Analytics

Practical industrial AI applications from DI PA DE-L
Co-create value of industrial AI - let's work agile

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EPA - Equipment Predictive Analytics benefits customer



Increasing reliability and effectiveness in production for cost reduction
Predict failures of equipment to avoid unplanned shut-down of plant
Analyze behavior of equipment within process environment and find anomalies

Improving operation efficiency for asset integrity
Get an intuitive picture of the health of your equipment in a timely and efficient manner
Achieve a predictive maintenance instead of time-based / reactive maintenance
Enable remote monitoring and issue identification

Better decision accuracy with smart data
Identified correlations hidden in data for smart decisions on operation
Consolidate knowledge, experience and data for 24/7 stable monitoring performance
Reduce workload for limited resources on experienced engineers

EPA Offers various value to users



Collecting historical production and maintenance data on-site for sensor correlation and modeling



Real-time condition monitoring and responsive alert list



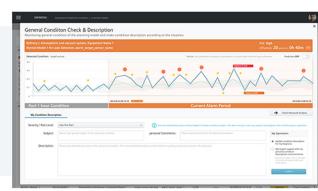
Smart diagnosis and maintenance report



More Accurate Sensor Correlations



Trend & Condition Prediction



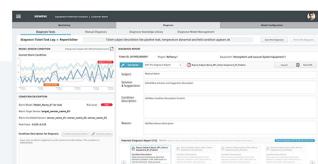
Efficient Analysis Process



Machine Learning



Minimize Risks



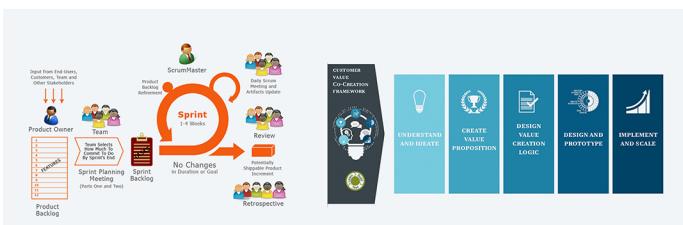
Reduce Manual Analysis

EPA provide interface and service for data management and analysis to meet individual customer operating environment and requirements.

Monitoring of equipment within process context and show alert and risks with advanced data science technique of machine learning and visual analytics. Record alert conditions with visualized chart, alert list and estimated indications.

Quick and precise diagnosis report mapping according to manual input condition description of the anomalies by using NLP technology.

EPA Development with agile and design thinking to co-create with customer



EPA is developing under Customer Value Co-Creation framework
Drive design impact in the process to transform customer's needs into real business value for the product.

EPA is developing with agile "Build - Test - Learn" logic
Work closely with end customer to shape the product step by step among sprints.

EPA is using practical industrial AI technology and developed by DI and CT together