Industrial Digital Thread

Overview

The Industrial Digital Thread (IDT) testbed drives efficiency, speed, and flexibility through digitization and automation of manufacturing processes and procedures.

It collects information in the design, manufacturing, service and supply-chain setup, and provides access to intelligent analytics for industrial manufacturing and performance data.

Beginning at design, the seamless digital integration of design systems into manufacturing, leveraging the model-based enterprise, helps to enable virtual manufacturing before even one physical part is created. Sensor enabled automation, manufacturing processes, procedures, and machine data will enable optimization in operations and supply chain.

Once the manufacturing process is complete, the digital 'birth certificate' (as built-signature) can then be compared to the as-designed engineering intention. This provides the opportunity for powerful big data analytics to enable service teams and field engineers to have better awareness, insights, and practical actions to improve the servicing and maintenance of critical assets. In this way, the production process can be viewed holistically, allowing management teams to make decisions based on robust information and data about their production process.

Overall, this operates as a straightforward and extensive mechanism to pinpoint issues at nearly any point in the production process. It can also be leveraged to help resolve those issues, as the IDT can serve as a template for high level decision making. Finally, it can be used to locate exactly where efficiency could be enhanced or costs could be cut.
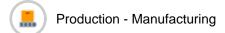
Applicable Industries

Aerospace

Automotive

Electronics & Embedded Devices

Consumer Goods

Heavy Vehicle

Equipment & Machinery

Medical Devices & Equipment

Rail & Metro

Shipping

Telecommunications

Applicable Functions

Facility Maintenance

Logistics

Product Development

Production - Manufacturing

Quality Assurance

Market Size

Estimate A

The global Digital Thread market is valued at 86 million USD in 2017 and is expected to reach 1.798 billion USD by the end of 2023.

Source: redNewswire

User Viewpoint

Business Value

How does this use case impact an organization's performance?
Insights provided by IDT can improve not only service and owner/operator productivity, but also provide critical feedback to the design engineering and manufacturing operations teams for continuous improvement. It is easier to identify root causes easier.

With enhanced visibility of the production process, it is easy to locate problems and inefficiencies, and to facilitate productivity gains.

Key Performance Indicators

How is the success of the system measured for users and for the business?
OPEX

Service level increase

IoT ONE Use Case

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